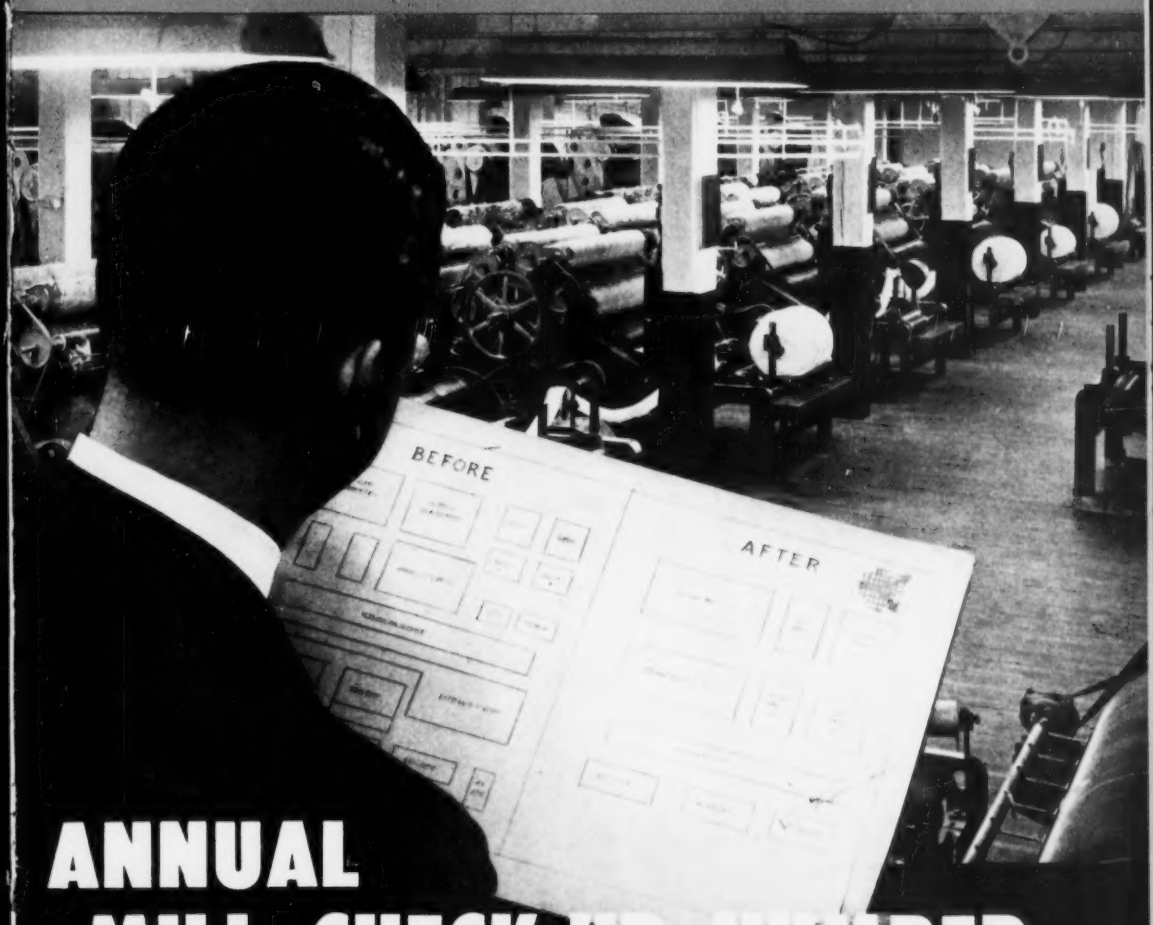
TEXTILE WORLD

A McGraw-Hill Publication ..... NOVEMBER • 1949



ANNUAL MILL CHECK-UP NUMBER

Featuring COST CUTTING

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Homogenization in Warp Sizing Page 127

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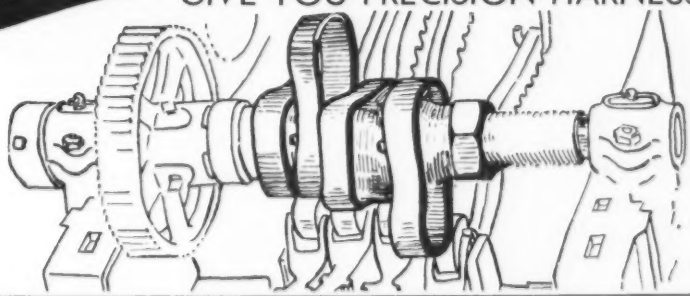

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Opportunity Knocks Again

The old saying that opportunity knocks but once—like many clichés—is not true. Today many operators of textile mills have a second chance to do what they should have done in the immediate postwar period, or a chance to continue what they started then. We refer to the opportunity to get set to meet competition.

Present good business for textile mills indicates that profits for the year will be much better than was anticipated at the end of the second quarter. Many operators of mills will have ample funds available for modernizing—if they wish to improve their operations. There is no question that expenditures will be more to cut costs and improve the quality of production than to expand operations.

In many respects, mill men today are in a more favorable position to put their plants in order than they were in 1946. For one thing, new machines and equipment are more readily available. For another, they can better evaluate the many aids to production that have been offered since the war.

In this Annual Check-Up Number we are listing dozens of things that have been tried in many types of mills to cut costs. It is paramount today for mills to check up on ways to cut costs and achieve higher productivity. The two elements go hand in hand, but there is little need to increase production regardless of cost.

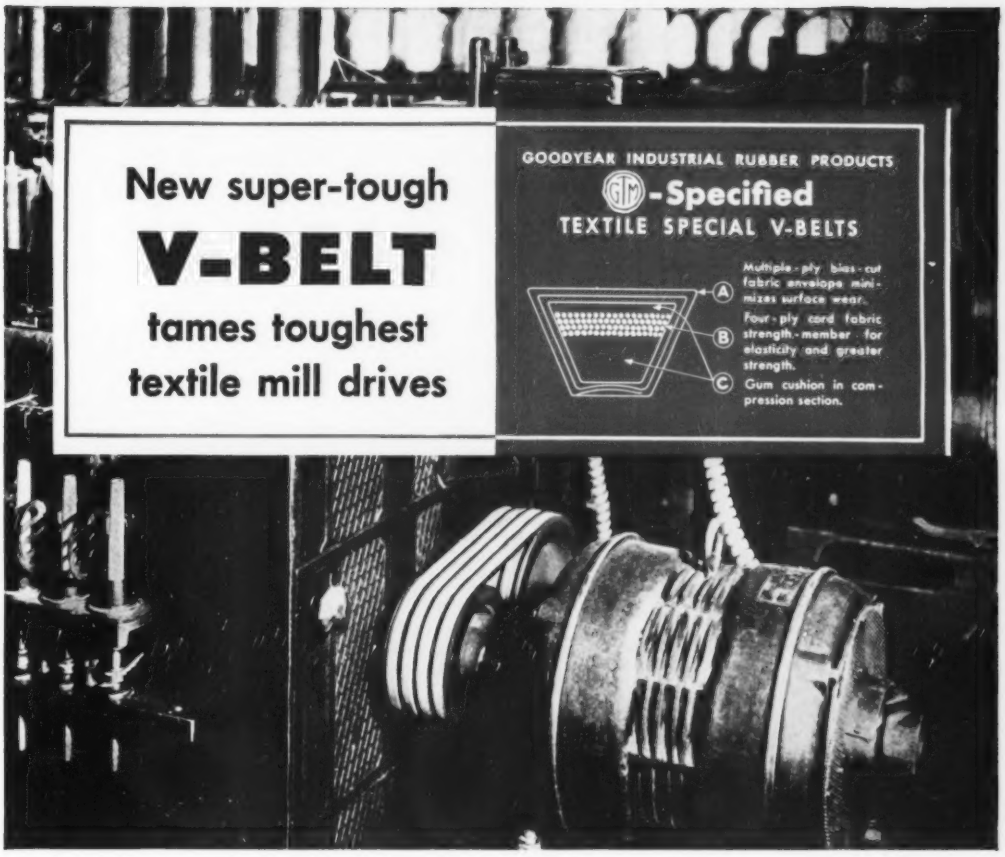
Last month we instituted the use of the McGraw-Hill symbol to identify cost-cutting articles. (Again it is reproduced on this page.) This month, however, we have gone still further, and we are devoting the principal part of our Check-Up Number to articles that fall in this category. We made three surveys to find how mill men have recently been cutting costs: one by mail to mills, one by calls of our editorial staff on mills, and one by contacting suppliers to the industry. We appreciate the cooperation we received. Even the best editorial staff that has been assembled by a textile publication is dependent on its industry for most of the information it is privileged to publish for the benefit of the whole industry.

The year end, we feel, is the time for mill men to check up on how their plants are taking advantage of the opportunities for improvement constantly before them. Before making plans for the next year, progressive operators will want to search all information available that will be of help to them. They will want to know what other mill men are doing. They will scan both the editorial and advertising pages, we are sure, since in an industrial publication both sections are devoted wholly to the practical business interests of its readers. It has been said that "the editorial pages answer the question 'HOW'; the advertising pages answer the question 'WHAT WITH?'"

An industry as great and large as the textile has need for huge volumes of information, volumes beyond all that could be published in a single issue of any magazine. Realizing the need, we have our Reader-Service Department to assist our readers in obtaining whatever they need to know to help operate a textile mill. In checking up on how you are doing and before making plans for next year, go through this whole check-up issue. Then if you need additional information, use the large Reader-Service card to let us know. Our whole purpose is to serve the textile industry from bale or case of fiber to finished fabric.

You have many opportunities to learn ways to run your plant—or department—better. Now that good business is giving you funds to improve your operations, we sincerely hope you will take fullest advantage of all that is available to you.

C. H. Bendigo


New super-tough
V-BELT
tames toughest
textile mill drives
GOODYEAR INDUSTRIAL RUBBER PRODUCTS
G.T.M.-Specified
TEXTILE SPECIAL V-BELTS
A Multiple-ply bias-cut fabric envelope minimizes surface wear.
B Four-ply cord fabric strength-member for elasticity and greater strength.
C Gum cushion in compression section.

You know how tough textile mill drives are on V-Belts. Heavy overloads and high starting torques are common. Misalignment of sheaves and resulting uneven load-distribution accelerate belt wear — cause early failure in most conventionally designed belts.

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Ask the G.T.M. about Goodyear Textile Special V-Belts, available in all popular textile mill sizes. Or write Goodyear, Akron 16, Ohio.

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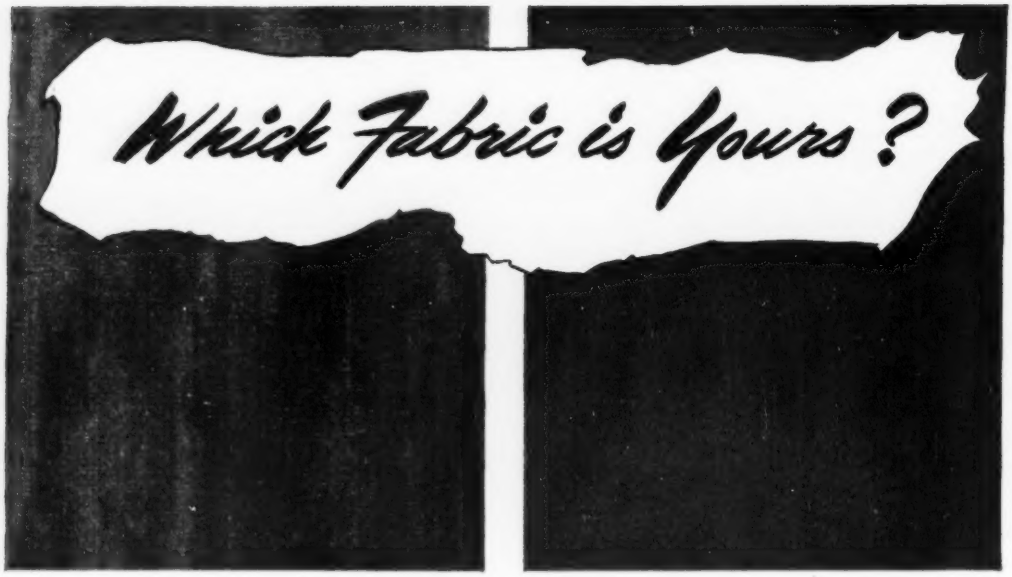

If yours is the streaky, defective specimen, the cause may be due to faulty yarns or weaving, improper sizing, poor dyestuffs, wrong dyeing procedure, or faulty finish.

It is important that you *know* the cause of defect and *who* is responsible.

Many years of practical experience and the study of Mill procedures have equipped our technical staff with the know-how to determine cause of defects and to prevent their re-occurence.

A TYPICAL DEFECT ANALYSIS INCLUDES:

1. *A study of the yarns and their characteristics.*
2. *A study of the weave tensions employed, and sizings used, as well as tints and other greige goods variables.*
3. *Determination of dyeing characteristics of the greige goods.*
4. *Selection and proper application of dyes and finishes to eliminate the defect.*

When required, a mill or dye house investigation is made by an experienced United States Testing Company technical consultant, and corrective procedures are outlined.

A similar procedure is followed in the analysis of prints, both screen and machine.

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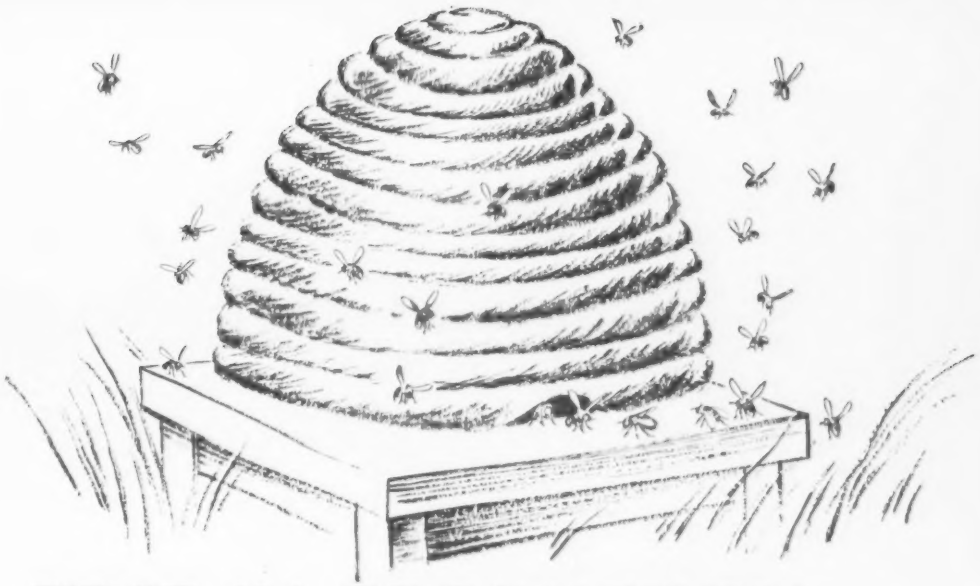

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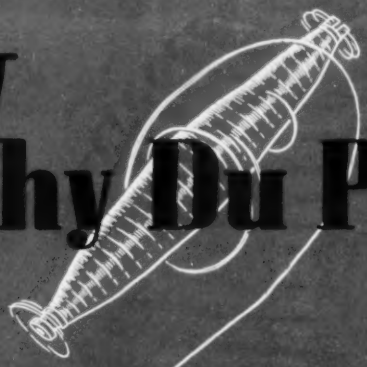
Why Du Pont for

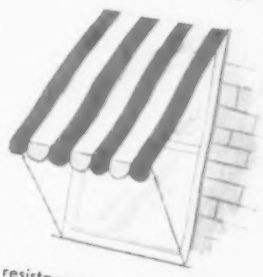


FOR NYLON...FOR RAYON...FOR FIBERS TO COME

Textile Fibers?

A "fiber to come" ARRIVES

It takes years of testing, months of experimenting, day after day of hard, patient work before a new fiber is offered to the trade.



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REDUCTION IN WASTE
LOWER COSTS

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LITERATURE is available on request. Write to our nearest Sales Office.

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FOR ROVING and SPINNING

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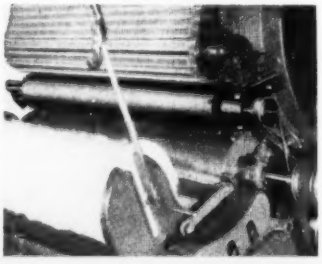
Continous
CARD STRIPPER



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60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD, MAINE *and* SANFORD, N. C.

SALES OFFICES: CHARLOTTE • GREENVILLE • ATLANTA

for raw stock scouring

1 to 2 pounds of

add Nacconol* NR

AMERICA'S LEADING SYNTHETIC DETERGENT

per 100 gallons of water in an alkaline solution**

get

cleaner wool 30% faster
(especially pulled wool)

no soap-residue odor

better dyeing on whiter, loftier wool

lower costs

Prompt service from ample basic production Get in touch with our nearest office.

NATIONAL ANILINE DIVISION ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK 6, N. Y. (BOwling Green 9-2240)

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Chicago 10, Ill., 357 West Erie St.	SUperior 7-3387	Chattanooga 2, Tenn., James Building	CHattanooga 4-6347
Philadelphia 6, Pa., 200-204 S. Front St.	LOmbard 3-6382	New Orleans, La., Cotton Exchange Bldg.	Raymond 7228
San Francisco, Cal., 517 Howard St.	Sutter 7507	Portland 9, Ore., 730 West Burnside Ave.	Beacon 1853
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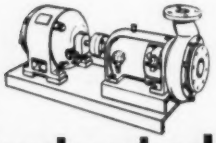
*Reg. U. S. Pat. Off.
**Write for full details on this economical use of NACCONOL NR.

THREE REASONS WHY THEY'LL GIVE YOU BETTER SERVICE . . .



❶ I-R Chemical Pumps are Protected against Leakage with the

LEAKOLLECTOR

The patented LEAKOLLECTOR stuffing-box gland – an exclusive feature of all I-R chemical pumps – provides a simple and effective solution to the problem of pump leakage. It completely encircles the stuffing box, trapping all leakage so that it can be drained away for collection or disposal. The split gland is accurately fitted to both the inside and outside of the box, and will catch any seepage escaping between the shaft and packing, or between the packing and the bore of the box. The LEAKOLLECTOR is easily removed from the shaft for repacking the box.

In the complete line of I-R chemical pumps, you'll find a unit that's *right* for practically any application . . . a pump that is completely engineered for maximum performance, minimum maintenance, and high operating efficiency. For complete information, write to Ingersoll-Rand, today, asking for Bulletin 7095. Or, if you have a special pumping problem, contact your nearest I-R engineer. He will be glad to help you.

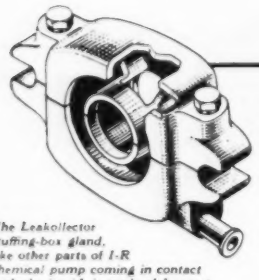
❷ They are ARMORED AGAINST CORROSION – with *IRCAMET*

Ingersoll-Rand chemical pumps are built to stand up under the continuous handling of corrosive and abrasive liquids. All parts of the pump that come in contact with liquid are made of IRCAMET – a high nickel-chromium-molybdenum alloy steel developed exclusively by I-R for chemical pump service. Laboratory tests and years of field experience have proved its exceptional ability to resist the corrosive action of a wide variety of acids and alkalis. Other materials are available for special operating conditions. The entire unit is further protected against corrosion by *Panoflam*, a modified, synthetic, resin-base paint which is highly resistant to chemical action and to oil and grease.

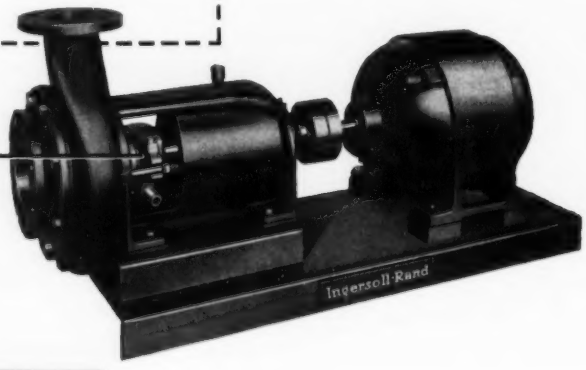
❸ They are BUILT FOR EASY MAINTENANCE – and *LESS OF IT*

These pumps are ruggedly constructed to last longer on the job – and the simple design, with all parts easily accessible, means less "time out" for maintenance. The short, rigid stainless-steel shaft prevents impeller whip and eliminates many stuffing-box troubles. The suction nozzle is removable, permitting access to the impeller without disturbing the discharge piping.

The CAMERON SHAFT SEAL can be installed on all I-R chemical pumps to replace the conventional stuffing-box packing. It eliminates stuffing-box leakage and requires practically no attention or maintenance.



The Leakollector stuffing-box gland, like other parts of I-R chemical pump coming in contact with the liquid, is made of Ircamet.

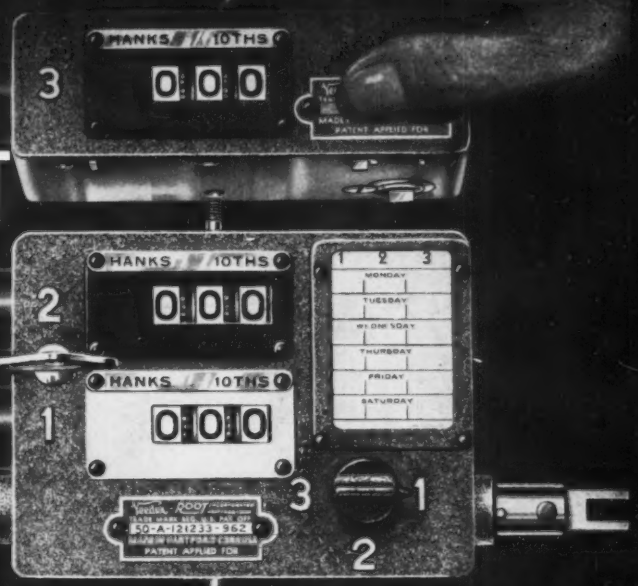


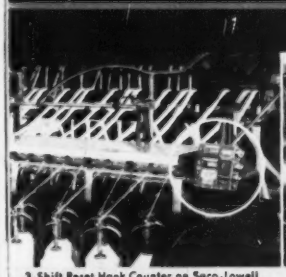
I-R Chemical Pumps are of the centrifugal type, of simple cradle-mounted design, coupled to the driving motor. They are available in sizes to handle up to 4000 gpm at temperatures to 800° F.

Ingersoll-Rand

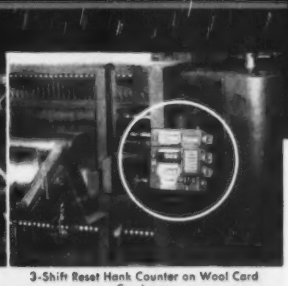
CAMERON PUMP DIVISION 363-10
11 BROADWAY, NEW YORK 4, N. Y.

Get VEEDER-ROOT 2 3 CONVERTIBILITY in HANK COUNTERS

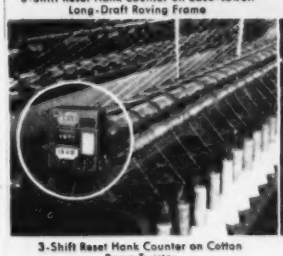




3-Shift Reset Hank Counter on Saco-Lowell Long-Draft Roving Frame



3-Shift Reset Hank Counter on Wool Card Condenser



3-Shift Reset Hank Counter on Cotton Beam Twister

3-Shift Reset Hank Counter on Whitin Wool Ring Spinning Frame

...for Frames and many other Mill Machines

These husky hank counters are convertible, right in your own mill, from 2- to 3-shift operation... just like the famous Veeder-Root 2-3 Pick Counters.

Veeder-Root 2-3 Hank Counters are built for top durability. And they have what it takes in the way of gear-reduction to convert the roll-revolution count into hanks and fractions.

Get this valuable Veeder-Root protection against errors and losses on all your spinning, roving and drawing frames . . . and on all twisters, combers, speeders, slubbers. Write for Catalog T-48, showing the full line of Veeder-Root Reset and Non-Reset Hank Counters, as well as the 8-way adaptable Right-Angle Drive. And get in touch with your nearest Veeder-Root office for experienced, reliable counsel on *any* counting problem.

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"Counting House of the Textile Industry"

World's Most Complete Line of Textile Counters

In Canada: Veeder-Root of Canada, Ltd., 955 St. James Street, Montreal 3
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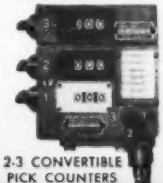
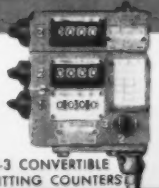
LOOM CUT-METERS



2-3 CONVERTIBLE PICK COUNTERS

LINEAR COUNTERS



2-3 CONVERTIBLE KNITTING COUNTERS

...all these and scores of other types... Send for Catalog T-48

First in The Middle East

KOHORN began the construction of this modern rayon plant for Societe Misr pour la Rayonne of Egypt in 1946. The plant has been in operation for a year.

Larger than any other rayon plant now in production or under construction anywhere in the Middle East, the plant has a combined annual capacity of 11,000,000 lbs. of viscose filament yarn, staple fiber, and transparent cellulose sheeting.

One all-inclusive contract with KOHORN has assured Societe Misr pour la Rayonne of . . . modern plant design . . . integrated engineering and process flow . . . easy-to-operate and efficient equipment . . . the latest manufacturing processes . . . expert technical personnel and operating management—backed by over 30 years' experience.

Entrusting KOHORN with the design, installation, and start-up of your proposed rayon plant is the best way of assuring an early completion of your rayon project . . . WITHIN THE ORIGINAL TIME SCHEDULE . . . WITHIN YOUR ORIGINAL CAPITAL BUDGET.

COMPLETE PLANTS for Filament Rayon, Rayon Staple Fiber and Transparent Cellulose Sheeting equipped in 12 months.

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EXECUTIVE OFFICES

501 FIFTH AVENUE, NEW YORK 17, N. Y., U. S. A.

Pioneers of the Rayon Industry

SANDOZ PRESENTS *The color achievement of the month*

Forever April ...BY DAN RIVER MILLS

The springtime colors in the fabrics of Dan River's new rayon suitings remain ever-fresh because they have been permanently captured by Sandoz CUPROFIX after-treatment.

This new method of after-treating the CUPROFIX line of *direct* colors preserves original shades against light, perspiration, dry-cleaning, hot wet pressing and washing. The use of CUPROFIX does not reduce fibre strength or affect the qualities of wrinkle-resistant treatments.

The CUPROFIX method has made it possible to process many fabrics to suit customer requirements without the expense of vat dyes. Many types of fabrics are now being dyed the CUPROFIX way at substantial savings in dyestuff costs — particularly when dyeing darker shades.

Ask the Sandoz representative to give you full information on the savings obtainable with CUPROFIX . . . particularly if you are using resins, you will be interested to learn about still faster colors with CUPROFIX.

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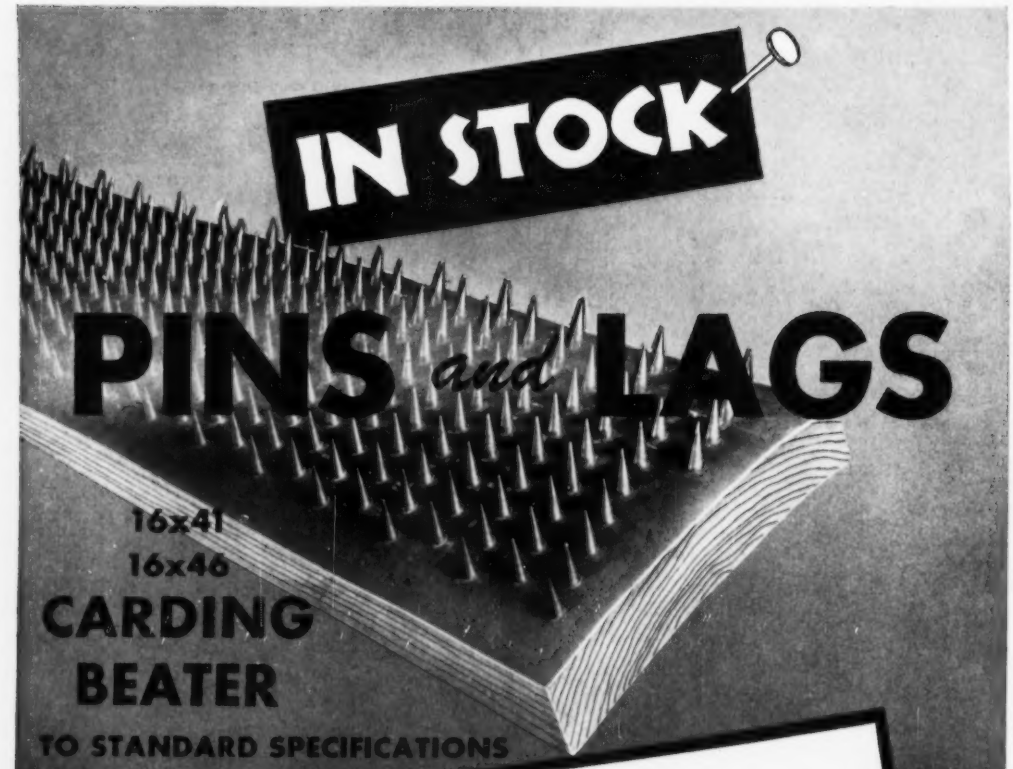
Application laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto • Other branches at Providence, Paterson and Montreal

SAND *thinks ahead with textiles*



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PINS and LAGS

16x41
16x46
CARDING
BEATER
TO STANDARD SPECIFICATIONS

We Specialize in Special Pinning
of MAIN Cylinder
Worker
Stripper
Doffer
LAGS

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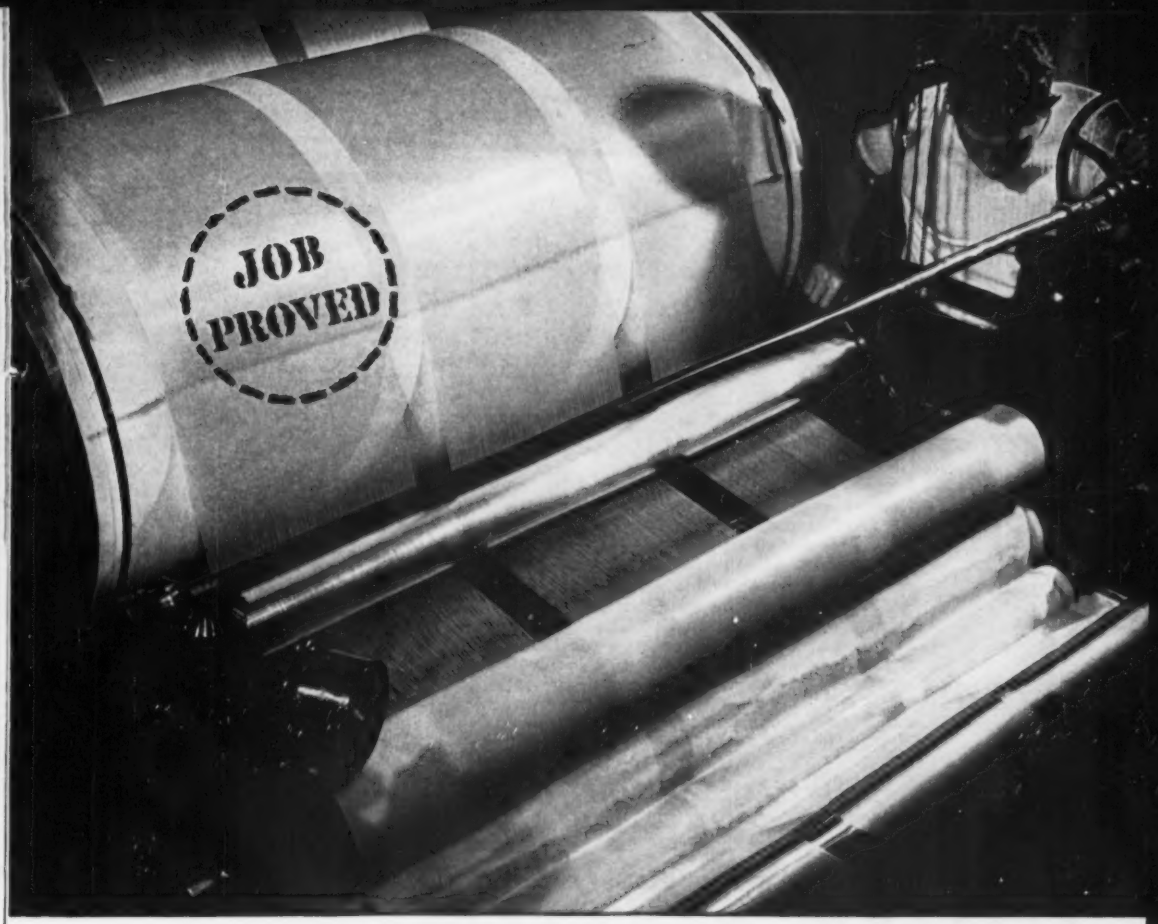


MILL SAVES 25% ON FORMULA COSTS

Sunotex Replaces 3 Formula Components on Slashers Sizing Synthetic Warps

A textile mill was using a softening oil, a penetrant, and a preservative for sizing viscose and acetate warps on a Johnson slasher. The use of so many components was expensive. They were also hard to handle, because they either had to be dissolved separately before addition to the formula, or heated before compounding.

A Sun Engineer, asked to study this problem, recommended that all three competitive oils be replaced with a single Sun product—"Job Proved" Sunotex. There was an immediate improvement in smoothness and sizing, extending over a 4-year period. Also, the same components worked equally well on Fortisan and Nylon when these were added to production. There has been a 25 percent saving in formula costs. Furthermore, Sunotex is uniform in quality, easier to handle, emulsifies readily and requires no reconditioning.

This is typical of the reduction in costs and improvement in products made possible in many mills with the help of Sun Textile Processing Oils. For further information about Sunotex or other Sun products for fibre-processing, call or write the nearest Sun office. The services of a Sun Engineer are available without obligation.

SUN OIL COMPANY · *Philadelphia 3, Pa.*
In Canada: Sun Oil Company, Ltd.
Toronto and Montreal

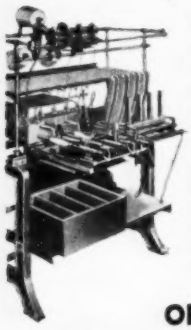
SUN PETROLEUM PRODUCTS
"JOB PROVED" IN EVERY INDUSTRY

SUNOCO

See the following pages for more news!

WINDING

4 identical bobbins wound fully automatically



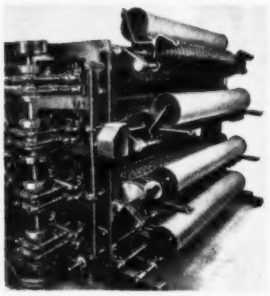
Where one bobbin filled before, the HACOBA produces four identical specimens. As winding four bobbins requires no more attention than one, the possibilities for increasing production are intriguing mill men throughout the world. This original HACOBA Filling Winder is fully automatic, winding on every type of bobbin, pirn, tube or quill for any loom. It winds to a predetermined length, (changeable in 5 seconds), traps, cuts and starts a new bobbin entirely without human aid. Do you see possibilities of raising the productivity of your mill? Write for our eight page booklet of technical winding data.

ORIGINAL TRADE MARK

HACOBA

FILLING WINDER

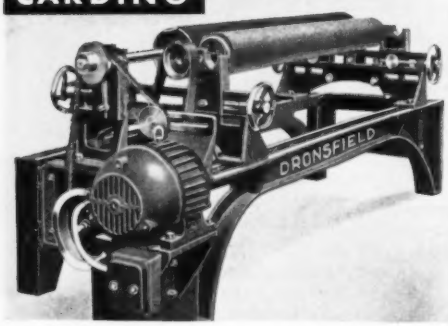
CARDING



VIBRATION FREE CONDENSER

The new high speed, quality sliver, Platt Bros. Tape Condenser is virtually free of vibration regardless of the number of banks, even with a motion shaft speed of 600 r.p.m. Illustrated is a four high condenser with guards removed to show the rubbing motion side. Change points are easily accessible and each pair of eccentrics is seated in a compound block which allows the top eccentric in any pair to be removed without disturbing the bottom. Friction is minimized to the point where the new type eccentric motion shaft can even be turned by hand under full load. Complete data and detail photos will be sent on request.

CARDING



GRINDING 2 ROLLERS AT ONCE

The DRONSFIELD #19 Improved Grinding Machine will handle two card rollers of from 2" to 30" diameter, simultaneously. Designed for precision surface grinding of the workers, strippers, etc. used on woolen, worsted and asbestos cards. For convenience and safety the motor is self-contained and has push-button starting. One V-belt can be adjusted for grinding or for turning up wooden rollers with shaft speeds of 90 or 760 r.p.m. More information about this utilitarian machine is available on request.

Atkinson, Haserick & Co.
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Textile Machinery Agents and Engineers
211 Congress Street Boston 6, Mass.
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THE CENTRIF-AIR MACHINE CO., INC.

HOLDSWORTH
GILL SCREW CO., INC.

Every HOLDSWORTH FALLER is ready to drop in and run without further adjustment

Follow the manufacture of fallers, in these photos and see why you can order *identical* fallers in any of the eight HOLDSWORTH types. Here specially hardened tool steel ends are being butt-welded to a cold-rolled steel middle. This process assures extra toughness and accurate length. The ends have been identically profiled on automatic machines.

Tiny holes, with micrometer precision spacing are being drilled completely through a middle. Pins of finely ground drawn steel are driven through these holes, anchoring them firmly. Absence of solder allows you to replace broken pins at your mill.

Here an expert pin-setter is putting on the final touches. This and every other HOLDSWORTH faller is now ready to drop in and run without further adjustment. Always specify HOLDSWORTH FALLERS for complete satisfaction.

TYPES —
S.A.C.M., new style
Open head, Prince Smith
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Patented Intersecting
standard Holdsworth
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EXPERT REPAIRING OF ANY KIND OF FALLERS!

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Platt's system includes all modern refinements for the production of regular cotton and rayon cut staple laps, and shows advantages in relative cost/labour factors and healthy working conditions.

Utilising large packages and two-zone high drafting at the speed frame to convert draw frame sliver into finished rovings handling and operative costs are considerably reduced.

The "Pneumafil" system of broken end collection, alternative methods of individual electric motor driving and four systems of high drafting—the four roller, single apron, Casablancas and Balmes—cater for all requirements.

MODERN SPINNING

AND DOUBLING

MACHINERY

..... for Cotton. Cotton Waste & Rayon Cut Staple . .

Marketing the Textile Machinery made in the works of

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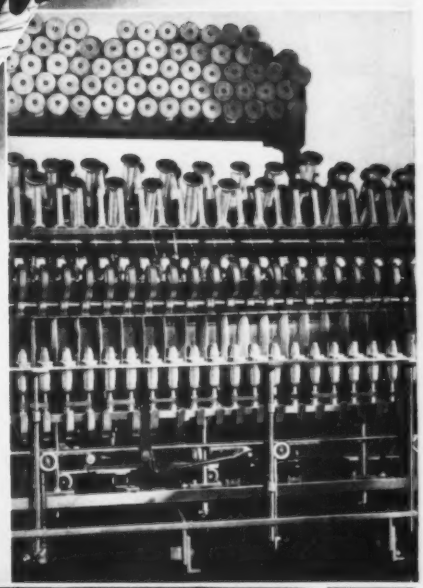
'MAGNUM' AND 'PARAMOUNT' MODELS

names made famous in spinning

LARGE PACKAGE RING



for Worsted Yarns

★ INCREASED EFFICIENCY
★ FEWER OPERATIVES
★ REDUCED COSTS

We shall be pleased to advise you on the suitability of these machines for spinning your yarns. Write for details.

P-S-S AND STELLS LTD

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NEW RUSSELL SPINDLE TAPES

reduce stretch, windage, friction, wear

PATENT PENDING

NOW you can get constant spindle speeds! Tests have proven that RUSSELL Nylon Filling Spindle Tapes minimize stretch. If you want more than this from a tape, listen to these other exclusive advantages: RUSSELL won't balloon because the porous blue center line blows out the trapped air which causes windage. On the departing side of the spindle, this same air escape punctures the retarding vacuum caused by the tape leaving the whorl. RUSSELL won't wear out down the center as the flexible Blue Line allows it to hug the whorl across its full width, thus three times as much wearing surface is usable. RUSSELL won't fray at its Nylon edges, an important factor in preventing stretch and breakage. RUSSELL runs cooler as thin Nylon filling, crossed by the resilient cotton warp, creates less frictional heat. Reduce heat — retard deterioration — cut "down time" — lower maintenance costs with RUSSELL Tapes. Manufactured by THE RUSSELL MANUFACTURING COMPANY.

Another Development

ESPECIALLY FOR COTTON TWISTING & WORSTED MILLS

Extra strength basket weave tape with BUTTON HOLE CENTER. The same Nylon filling and Nylon edges, the same whorl hugging characteristics with greater strength for heavier operations.

RUSSELL Button Hole is the only heavy type tape to eliminate windage. Two Button Holes every inch insure positive air escape.

Prove, that you can maintain constant speeds, that windage can be practically eliminated, that RUSSELL Tape won't wear out in the center, nor fray at the Nylon edges. See below how inexpensive it would be to equip a test frame with RUSSELL Nylon Spindle Tape. Tear off the coupon and mail it today.

NEW LOW PRICES

TEAR OUT & MAIL TO SUPER MARKET OF THE Textile Industry

Atkinson, Haserick & Co.
211 CONGRESS ST., BOSTON 6, MASS.
SOLE AGENT

PRICE PER 100 YARDS

THIN BLUE LINE		HEAVY BUTTON HOLE	
5/8"	$2.83	5/8"	$3.95
		3/4"	$4.58

I am anxious to make my own tests. Send us ..... yds. of ..... in. width RUSSELL Thin Spindle Tape with the Air Escape Center. Send us ..... yds. of ..... in. width RUSSELL Heavy Spindle Tape with the Button Hole Center.

COMPANY _____

STREET _____

CITY _____ ZONE _____ STATE _____

SIGNED _____ POSITION _____

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THE CENTRIF-AIR MACHINE CO., INC.

See all that you get in.. C&K C-LOOMS

Looms equipped with dobbies, head motions or cams... and with C&K Jacquards, whatever your needs require

3-way convertibility . . . with tricolor feature

52 widths, from 33" to 120" between swords

4 types of harness motions

4 types of let-offs

4 types of take-ups

3 types of feeler mechanisms

8 different shuttle sizes, for 7⅛" to 10⅛" bobbins . . . with wound diameter up to 1⅝"

Unmatched range of fabrics and specialties . . . cotton, spun rayon and blends . . . for handkerchiefs, dress goods, suitings, shirtings, marquisettes, terrys, hucks, upholsteries, blankets, draperies, just to mention a few.

The endless versatility of C&K C-Looms . . . equipped with dobbies, head motions, cams and jacquards . . . is the most powerful mobile defense any mill can have against the quick-shifting trends of today's nervous markets. See exactly what modern C-Looms can do to weave new profits in your weave rooms. Write.

CROMPTON & KNOWLES LOOM WORKS

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This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Woven Fabrics

Avoid troublesome seams

ACCOTEX COTS
CORK COTS

by using Accotex Aprons

Special Accotex construction also prevents other common causes of apron failure

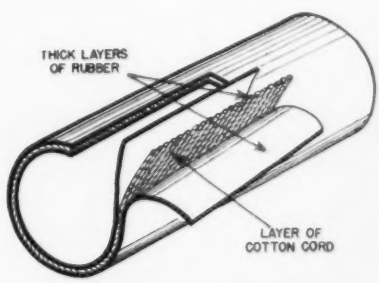
Armstrong's Accotex Aprons have no seams to break open or cause irregular slip roll action. Seamless layers of tough Accotex® rubber, reinforced by a sturdy cord interliner, provide smooth wearing surfaces that cannot break open at the seams. Neither can they stretch or curl at the edges.

Because of this special construction—developed and patented by Armstrong—many Accotex Aprons still spin top-quality yarn after *more than six years of continuous service* on spinning and roving frames.

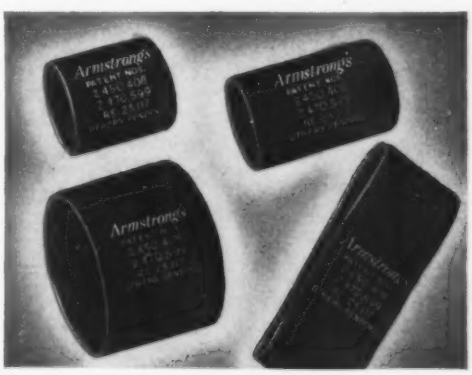
In addition, the rubber used in Accotex Aprons helps produce clean running work. A special non-oxidizing synthetic, it will not scuff or become hard and brittle with age.

Accotex rubber also gives the aprons superior flex life. Year after year, they hug the nose bar without buckling, are unaffected by oil, temperature changes, or humidity.

See for yourself how Armstrong's Accotex Aprons completely eliminate the common causes of apron failure. Your Armstrong representative will be glad to arrange a test installation. Call him today. Or write Armstrong Cork Company, Textile Products Department, 8311 Arch Street, Lancaster, Pa. Available for export.



Armstrong's Accotex Aprons are available for single or double apron long-draft equipment, for roving as well as for spinning frames. They are ground to the exact thickness you require . . . and are uniform in density and over-all dimension.



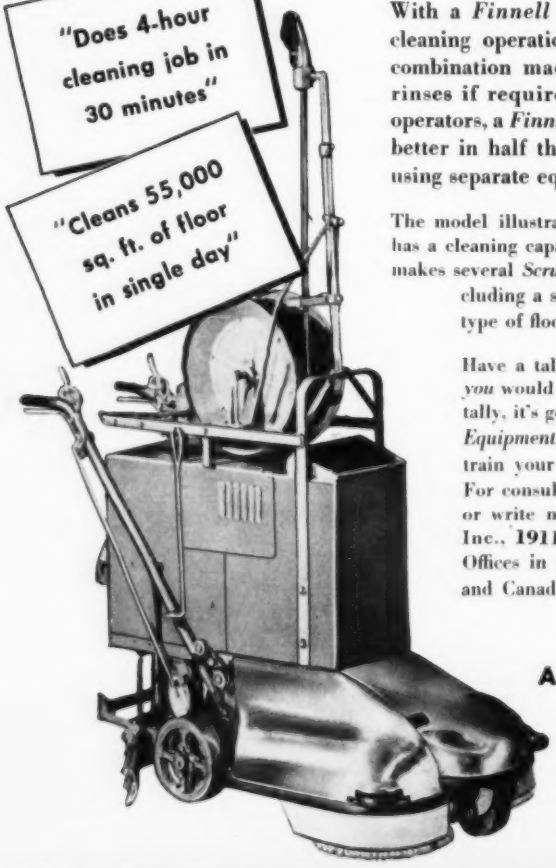
ARMSTRONG'S ACCOTEX APRONS

"Cuts our cleaning costs more than $1200 annually"

"Cleans floor area size of city block in 6½ hours"

"Does 4-hour cleaning job in 30 minutes"

"Cleans 55,000 sq. ft. of floor in single day"



OTHERS SAVE ON LARGE-AREA SCRUBBING ... Why Not You?

Now especially, with the need for cutting costs, savings such as are possible with a *Finnell Scrubber-Vac* are well worth investigating.

With a *Finnell Scrubber-Vac*, all four of the floor-cleaning operations can be done mechanically! This combination machine applies the cleanser, scrubs, rinses if required, and picks up. With one or two operators, a *Finnell Scrubber-Vac* can do a cleaning job better in half the time it takes a crew of six to eight using separate equipment for the several operations.

The model illustrated below, for heavy duty requirements, has a cleaning capacity up to 8,750 sq. ft. per hour. *Finnell* makes several *Scrubber-Vac Machines*, all self-propelled, including a single disc model for use on the smoother type of floors. It cleans up to 10,000 sq. ft. per hour!

Have a talk with *the nearby Finnell man*. See what *you* would save with a *Finnell Scrubber-Vac*. Incidentally, it's good to know that when you choose *Finnell Equipment*, a *Finnell* man is readily available to help train your maintenance operators in its proper use. For consultation, demonstration, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1911 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

A *Finnell* SCRUBBER-VAC

FINNELL

FINNELL SYSTEM, INC.

Pioneers and Specialists in

FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

BRANCHES IN ALL PRINCIPAL CITIES

The Reason for Florence Tailored Color:

TO MAKE YOUR END PRODUCT BETTER!

Your intent, naturally, is to make the best product possible for your customers so that they will buy and you will profit. Make a better product by using *Florence Tailored Color*. Color is our business and color we know. *Tailored Color* comes from our processing of cotton, wool, synthetic or blended yarns by special laboratory and technical methods to give you the exact color you specify, the exact fastness you specify, and the quality you require. The reason for *Tailored Color* and the reason for its acceptance, is because it *does* enable you to make a better end product. We *Tailor Color* yarn either supplied by you or obtained by us.

Use *Florence Tailored Color* beginning today.

FLORENCE THREAD CO., INC.

ESTABLISHED 1894

Fairview Street, Riverside, New Jersey—Phone Riverside 4-0211

New York Sales Office: 40 East 34th Street, New York 16, N. Y.

Package Dyers and Processors of Cotton, Wool, Synthetic and Blended Yarns

Processors and Distributors of "USTEX"* Industrial Sewing Threads

*Trade Mark Registered U. S. Pat. Off. By United States Rubber Company

Learn these Definitions

rayon

A textile fiber made of *regenerated cellulose.* (Example: viscose.)

estron

A textile fiber made of an *ester of cellulose.* (Example: cellulose acetate.)

● These separate and distinct names for the two major types of man-made fibers are recommended by the Committee on Textiles of the American Society for Testing Materials, the membership of which includes many leading manufacturers, distributors, and users of textile products.

Tennessee Eastman will follow the ASTM recommendation and identify its cellulose acetate fibers as *estron*, not rayon.

Tennessee
Eastman
Corporation

SUBSIDIARY OF EASTMAN KODAK COMPANY

KINGSPORT, TENNESSEE

US offers the FIRST entirely NEW Bobbins for synthetic yarn twisting...

New materials, new trouble-free design, and new precision construction methods are combined to produce

ACROPAK BOBBINS

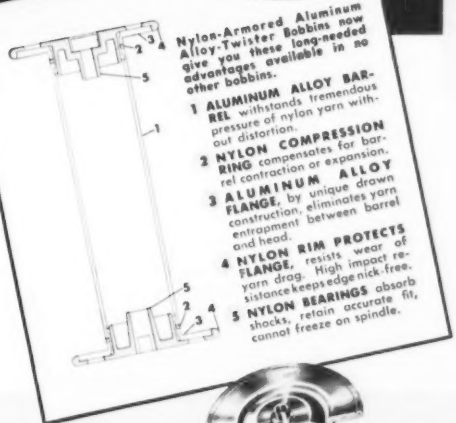
You've seen many "improvements" of conventional bobbins for processing synthetics. Now, for the first time U S brings you bobbins engineered from the start to overcome problems posed by nylon and similar fibers.

ACROPAK beats nylon's destructive pressure, with a super-strength barrel that will serve for years without distortion. Spindle bearing wear at today's high speeds is reduced, because **ACROPAK** Bobbins are lighter — have durability without "dead" weight.

ACROPAK design ends yarn entrapment between barrel and head, by eliminating the conventional joint at this point. It prevents slubs, breaks, and waste, because yarn flow over the smooth, tough, nick-resistant nylon rim is unimpeded.

ACROPAK Bobbins start true — stay true, because absolute concentricity is assured by manufacture to rigid specification, with precision dies, and new testing methods. Virtually indestructible in normal use, **ACROPAK** Bobbins can cut your bobbin cost-per-year to surprisingly low levels.

ACROPAK Bobbins can be made to fit most standard spindle dimensions and drives. Your U S representative is prepared to show you samples and discuss your synthetic yarn processing problems.



Nylon-Armored Aluminum Alloy-Twister Bobbins now give you these long-needed advantages available in no other bobbins.

1 **ALUMINUM ALLOY BARREL** withstands tremendous pressure of nylon yarn without distortion.

2 **NYLON COMPRESSION RING** compensates for barrel contraction or expansion.

3 **ALUMINUM ALLOY FLANGE**, by unique drawn construction, eliminates yarn entrapment between barrel and head.

4 **NYLON RIM PROTECTS FLANGE**, resists wear of yarn drag. High impact resistance keeps edge nick-free.

5 **NYLON BEARINGS** absorb shocks, retain accurate fit, cannot freeze on spindle.

ACROPAK

Made by Acrometal Products, Inc., World's Leading Manufacturers of Drawn Aluminum Bobbins and Spools

A Division of

U S BOBBIN & SHUTTLE CO.

Lawrence, Mass.

Only ACROPAK Drawn Aluminum Alloy TAKE-UP and HEADLESS BOBBINS have these advanced features.

TAKE-UP BOBBIN: Drawn construction eliminates seam between barrel and flange • Bobbin takes heaviest pressures without distortion • Absolute concentricity assured by manufacture from special precision dies • Reduced weight eases handling • Unaffected by high steaming temperatures • ACROMETAL anodizing eliminates yarn stain.

HEADLESS BOBBIN: Amazing strength and durability through ACROMETAL tube and gudgeon with stainless steel collar • Much lower initial cost than for mandrel-cylinder assembly. One operation instead of five in take-apart means time saving up to 75%. Absolute concentricity assured by unique construction.

TEXTILE MACHINERY and

PUBLISHED BI-MONTHLY FOR TEXTILE MILL EXECUTIVES AND OPERATING PERSONNEL BY PROCTOR & SCHWARTZ, INC.

• NOVEMBER • 1949 •

Swing Continues to Proctor Metallic Wire Worsted Cards

Since its first introduction to the textile industry, the Proctor metallic wire worsted card has been constantly gaining wider and wider acceptance. The results that have been achieved by those using these modern cards, are such that it is inevitable that the swing to metallic wire cards will continue.

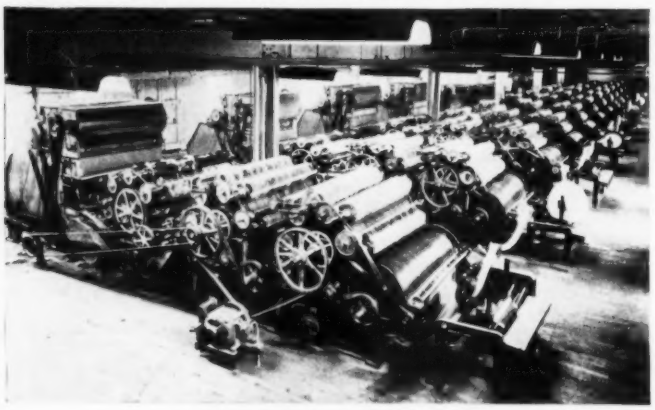
Two of the most recent major installations of these cards have gone into A. D. Juilliard & Co., Inc., in Providence, R. I., and Julius Forstmann & Co., Inc., in Passaic, N. J.—two of America's leading mills.

In every installation, these Proctor cards have replaced older, less efficient cards. Usually *one* Proctor metallic wire card replaces *two* older types—so great are the production possibilities of these cards. Not only is production usually doubled—but the quality of the card sliver is improved. Another significant advantage that is gained, is that card waste is greatly reduced with a resultant greater yield of finished card sliver.

Not only are these advantages recognized by American mills—but have become so well established that the cards are gaining world wide acceptance. Within recent months several Proctor metallic wire worsted cards have been installed in Sweden, France, Argentina, Peru and Morocco.

Independent studies of the operation of these cards in two of the early installations, are available for the asking. Another study of a more recent, large installation is contemplated in the near future and will be made available when it is finished. If you would like to see figures on the production record of these cards—or any other details on their operation—write to Proctor engineers today.

Card room of National Worsted Company, Jamestown, N. Y., another progressive mill now completely equipped with Proctor metallic worsted cards.



INVESTIGATE CONTINUOUS PROCESSING TO STRENGTHEN COMPETITIVE POSITION

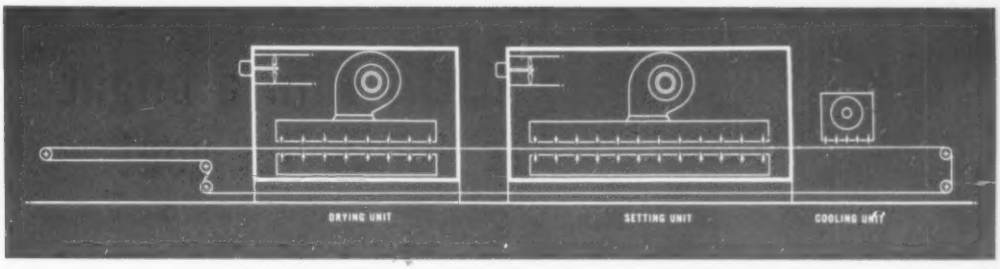
Textile mills, as well as all other manufacturers, are becoming increasingly aware of the return of competition. Alert mill management is constantly on the look-out for ways and means to strengthen their mill's competitive position.

One of the ways that is being utilized more and more, is a swing to continuous processing or range operation. As a matter of fact, a recent study of textile mill operation, made by a large electrical manufacturer, found this to be one of the most significant trends of the industry. Continuous processing brings with it many advantages. Wherever continuous processing has been employed uniformly higher quality has resulted because the inequalities of batch processing have been eliminated. Production is increased, "in-between" losses are reduced, production supervision is simplified and power maintenance costs are reduced.

Proctor engineers have done considerable work in the development and installation of "ranges" of equipment for all types of textile fiber processing and drying problems. If you are interested in strengthening your competitive position—it may well pay you to study your present method of operation and permit Proctor engineers to recommend modern equipment that can be operated in range. It's worth thinking about!

DRYING EQUIPMENT *News*

NYLON TRICOT FABRIC, 120", PERFECTLY and UNIFORMLY SET TO ASSURE ABSOLUTELY UNIFORM DYEING...



A development of Proctor engineers

Results obtained in setting 120" nylon tricot fabrics by a leading nylon underwear manufacturer, prove beyond any shadow of doubt that the recently developed equipment in use there and built by Proctor & Schwartz, meets *every* standard of the manufacturer. This equipment is producing a perfect and uniform set throughout the entire width and length of the fabric—and as a result, when the fabric is dyed, the shade is absolutely even. The development of this system is a direct result of close collaboration on the part of Proctor development engineers and the underwear manufacturer's technicians, aided with technical information on nylon from DuPont. It is built on a firm foundation of facts! Its performance is its best evidence.

Briefly, here is how the system (illustrated by the side elevation drawing) will operate. Following the boil-off or scouring, cloth is dried in a pin tenter. Immediately following this, the fabric continues on the same tenter frame into a gas heated housing where it is subjected to carefully controlled temperatures sufficiently high to insure proper setting. Specially designed nozzles make possible circulation of heated air in such a way that an even distribution is assured and uniform setting accomplished. Because the physical properties of nylon are such that cloth should be cooled before removing it from the pins, the system embodies a cooling unit to finally reduce fabric temperature. Most nylon tricot can be set at the rate of about 30 yards per minute—although details in the design to accommodate different capacities, can be worked out with individual mills.

Any mill already using a wide tenter may accomplish setting by adding a heat treating unit as a separate piece of equipment—or may extend their present tenter to include the heat treating and cooling phases of this operation.

Proctor engineers will welcome the opportunity to discuss the details of this modern, much needed system with any textile mill. Give as much information about your fabric and current method of processing as possible when writing.

Much Proctor drying equipment and textile machinery is covered in full or in part by patents or patents pending

Proctor & Schwartz Inc. • 710 Tabor Road • *Philadelphia 20* • *Pa* •

Dorian -designed pique housecoat featured in current Linit® Starch national magazine advertising in color promoting, "the CRISP LOOK of starched cottons."

the *Crisp Look* of starched cottons

Idea with a bright future for you!

Cotton people pick up very few wooden nickels—they're a "show me" breed. Significant—

For more and more they're lining up behind "the CRISP LOOK of starched cottons" as the sure-thing promotion. And the reasons are good . .

During 1949 this theme has demonstrated that crispness . . .. *starched* crispness . . . is what women want in cottons. Proof?—

. . . Millions of dollars worth of magazine and newspaper editorial features! A national drumfire of mentions on the air and television, in dress-manufacturer and department store advertising!

No doubt about it—"the CRISP LOOK of starched cottons" *sells* cottons and that's why cotton producers are throwing support behind it.

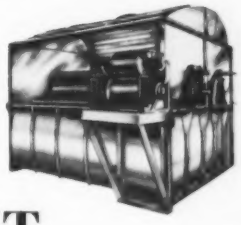
CORN PRODUCTS REFINING COMPANY
17 Battery Place, New York 4, N. Y.
producers of starches for the textile industry

For more information, write direct or use Reader Service post card.

FAMOUS FINISHES . . *Sailing just under a nine-knot average for the entire course, the "Highland Light" set a record in the 1932 Bermuda Race by covering the 625 sea miles from Montauk to St. David's Head in less than three days. She sailed so fast that she arrived at the finish before the tug had established the line.*

One of a series painted for Rodney Hunt by Ben Stephenson

THERE'S a "famous finish" in Ware Shoals, S. C., that we'd like to mention. It's the finish on cottons and rayons by Riegal Textile Corporation's Ware Shoals Division. Like many another "famous finish" in textiles, you'll find that Rodney Hunt finishing equipment is playing a key role. At Ware Shoals, Rodney Hunt Soaping Ranges are giving record production at record low costs. If you have a finishing problem — big or little — put it up to Rodney Hunt finishing engineers. Please turn the page for more specific information on "Finishing for Profit."



RODNEY HUNT

RODNEY HUNT

Established 1840

ORANGE 10, MASSACHUSETTS, U. S. A.

"Tensitrol," "Tru-Shade," "Slack Loop," "Wring-Master," and "Curve-of-Strength" are registered trade marks identifying textile finishing machinery manufactured exclusively by Rodney Hunt Machine Co.

Finishing For Profit

RODNEY HUNT

Established 1840

RODNEY HUNT MACHINE CO.

ORANGE 10, MASSACHUSETTS, U.S.A.

Unique Test Run on Rodney Hunt "Tensitrol" Open Width Washer

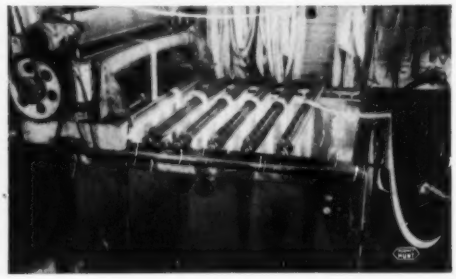


Fig. 1

Place: Laboratory of Rodney Hunt Machine Co.

Test: To determine tensionless qualities of "Tensitrol" Washer.

Equipment: One standard stock "Tensitrol" Open Width Washer. One roll of toilet tissue.

Procedure: Standard Open Width Washer threaded with toilet tissue in conventional manner that is used on all types of fabric. (See Fig. 1)

TESTS	RESULTS
1. "Tensitrol" Open Width Washer run at 120 yards per minute.	1. No breakage occurred in the tissue when run at this high speed.
2. Delivery rolls opened so that tissue remained stationary even though machine was running at 120 yards per minute. Delivery rolls brought together to start tissue through machine.	2. No breakage occurred in tissue when delivery rolls were brought in contact violently starting tissue through machine at 120 yards per minute.
3. Rod inserted under pass of tissue through machine and raised 12" to simulate shrinkage in actual machine. (See Fig. 2)	3. No breakage occurred and all passes through machine remained relaxed.

Conclusions:

Test No. 1 — The tissue was completely relaxed and tensionless because no perforations on the toilet tissue were broken during the running of this test.

Test No. 2 — The violent action of starting the tissue through the machine at 120 yards per minute did not break perforations in the tissue. This was further proof over Test No. 1 that the cloth was absolutely tensionless.

Test No. 3 — That, regardless of amount of stretch or shrinkage, any fabric would remain tensionless in the "Tensitrol" Washer.

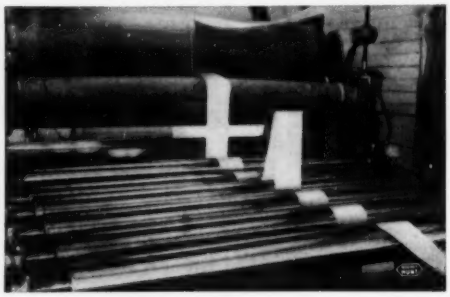


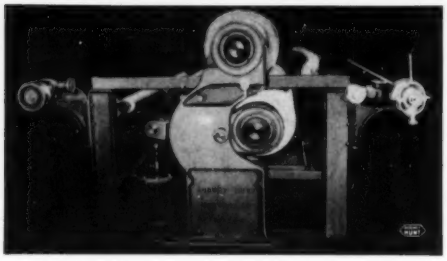
Fig. 2

SUBSEQUENT tests with all kinds of cloth and under all types of conditions plus what is most important, many months of hard usage in some of the largest textile plants in the country, have demonstrated the "Tensitrol" principle to be one of the really great advances in the textile finishing industry.

The large number of immersions given the fabrics, plus the high washing efficiency maintained because the fabric is relaxed, reduces water consumption. Lack of tension means lower horsepower requirements.

★ ★ ★

Rodney Hunt Padders Set New Standards



Do you use a Padder for — rayons, cottons, woolens, laces, nylon, or a combination of any of these?

These are your problems:

What pressures should I use?
What types of rolls should I use?
What density of rubber should the rolls be?
How much immersion do I need?
What speeds should I run?

These are your individual problems and yours alone. Your requirements are different from those of anyone else.

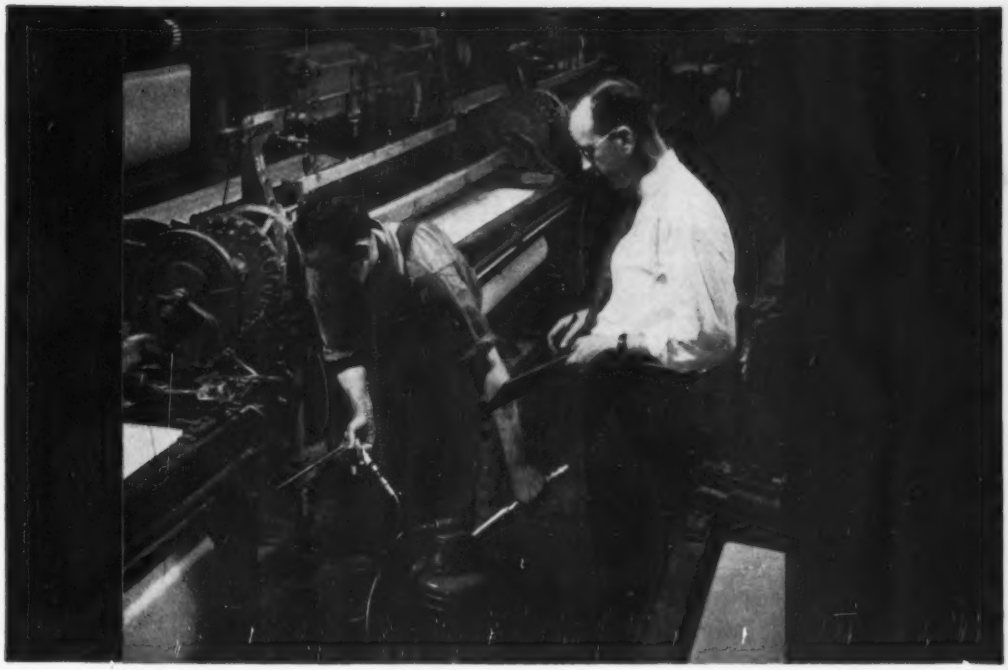
Rodney Hunt engineers are specialists trained to meet your individual requirements. They have studied the application of perfected controls for pressure, made long exhaustive studies of roll constructions, density of rubber. They have met and coped with all of the problems that confront you as a finisher.

If you have a problem — tell Rodney Hunt!

★ ★ ★

If further information is desired on the above subjects, please address your inquiries to the Rodney Hunt Machine Co., Orange 10, Massachusetts, U.S.A.

COPYRIGHT 1949 RODNEY HUNT MACHINE CO.



lower maintenance expense in the weave room

when the **GULF LUBRICATION ENGINEER**

is "in the picture"

For lower maintenance and power costs in the weave room—in every mill room—enlist the cooperative services of a Gulf Lubrication Engineer.

With a background of thorough training and broad practical experience, he can be of real assistance to you in improving your lubrication practice.

He will recommend the lubricants and application methods exactly suited to your equipment and operating conditions. Then, periodically, he will check the performance of each machine and suggest any changes in lubrication practice that are necessary to provide for new conditions.

This kind of lubrication service has a real dollar and cents value to you. Write, wire, or phone your nearest Gulf office today and ask the Gulf Lubrication Engineer to call.

Gulf Oil Corporation · Gulf Refining Company

Division Sales Offices:

Boston · New York · Philadelphia · Pittsburgh · Atlanta
New Orleans · Houston · Louisville · Toledo

Gulf makes available top quality passenger and truck tires — ask your Gulf representative

GULF INDUSTRIAL LUBRICATION

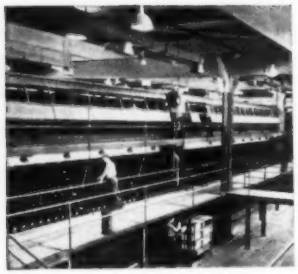
It's Carrier for scientific air conditioning

Call it what you like—scientific air conditioning or air conditioning know-how—Carrier has what it takes to design and install the system which will reduce your costs the most.

Proof that Carrier know-how pays off is on record. Here are just two of many case histories from Carrier files:

1 **Before modernizing its outmoded air conditioning with a new Carrier Evaporative Cooling System, mill A's production was limited to 32,000 yards of cloth per loom. After Carrier modernization, loom efficiency increased 2 per cent—giving the mill 640 more yards of cloth per loom with exactly the same labor.**

2 **Before the addition of Carrier Refrigeration eliminated the sudden temperature changes in mill B, ends-down averaged 50 to 60 per 1000 spindle hours—afterward they were cut in half. Lower temperatures made labor more efficient. More efficient labor gave better attention to fewer ends-down.**

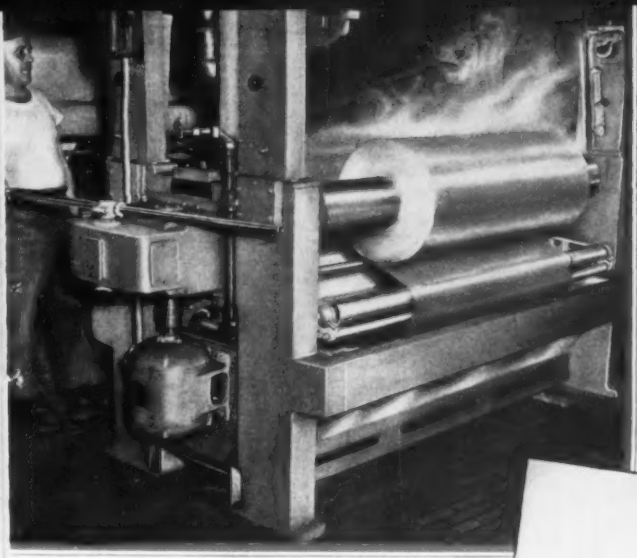


In the chemical production of fibers, too, Carrier control of temperature and humidity is vital to large-scale production and uniform quality. Here in the world's first plant for continuous processing of viscose rayon at Paynesville, Ohio, the Industrial Rayon Corporation operates more than a mile of streamlined spinning machines like this.

These are typical examples of the easily measurable results of scientific air conditioning. There are other results not so easy to measure, but which are very important—for instance, better choice of labor, less employee absenteeism and turnover.

Whether your problem involves a new installation or modernizing an old system, you can rely on Carrier know-how for a sound solution. Carrier Corporation, Syracuse, New York.

Carrier AIR CONDITIONING • REFRIGERATION • INDUSTRIAL HEATING



Actual photograph of Van Vlaanderen C.T.* Jig in operation at Vitromar Piece Dye Works, Hawthorne, N. J.

CT* *A New Standard* IN JIG PERFORMANCE

It will pay you to read the letter reproduced here. It gives actual jig room results proving the new Van Vlaanderen C.T.* Jig is the most versatile and rugged jig you can buy today. Better tension control, freer idling, easier and cleaner operation, capacity for larger cloth rolls and better production are all here, allowing you to turn out quality goods at lower cost.

*Controlled Tension

IMPORTANT FEATURES: New, compact worm type main drive in oil with dry clutches and anti-friction bearings to reduce drag resulting in better tension control. Chains and sprockets completely housed (running in oil) to reduce wear and maintenance and for clean operation. Entire drive system controlled by shifter lever operated from either end. Main drive unit can be dismounted and spare drive unit mounted in half hour. Heavy vibration free cast iron frames, stainless steel tank, 7¼" rubber covered rolls, new overflow arranged sideways, guide rolls stainless steel. Oscillating type expander unit with stainless steel curved bars and immersed rolls. All guide rolls mounted on special stainless steel roller bearings. Better tension control with redesigned malleable iron brakes and tension indicator to permit quick and accurate readings. Other type brakes if desired.

We have made arrangements to show you this machine in actual plant operation. Write us.

Vitromar Piece Dye Works
Hawthorne, New Jersey

September 15, 1949

Mr. C. H. Van Vlaanderen, President
Van Vlaanderen Machine Company
370 Straight Street
Paterson 3, New Jersey

Dear Mr. Van Vlaanderen:

You will be glad to know we are so pleased with the new C. T. Jig which we bought last year that we have decided to order twelve now and expect to order more.

Our jig room has a lot of machines of various makes. From experience we have found that many jigs have limitations — doing good work on one type cloth and not so good on another. We had about resigned ourselves to that condition.

When we began running your new C. T. Jig, we tested it out to see where it would fit in. We were surprised that it seemed to have no limitations — it does superior work on every cloth that can be jig dyed. The results have been universally good on every batch.

Frankly we were doubtful at first that the Van Vlaanderen C. T. would justify its higher original cost. It is only now — after a year of trouble-free service — that we are convinced that the cost is justified. It has operated every week on a 24 hour, six day schedule. In several periods, when the plant was on a seven day week, the C. T. Jig was not idle a single hour for a month's time. Upon inspection of the operating parts we find no appreciable wear and no service required. We expect it to do a big job without maintenance for years to come. We will go out on a limb and say it looks like it will give ten times the usual service before repairs will be necessary.

Yours very truly,

Albert Martinelli

President

VAN VLAANDEREN MACHINE COMPANY

370 Straight Street, Paterson 3, New Jersey · Cable address: Vlaanderen, Patersonnj, U.S.A.

World's largest manufacturer of machines for processing modern fabrics

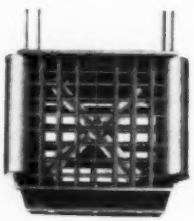
AMCO — *specialists in humidifying and air-conditioning devices*

These devices as well as the complete humidification and cooling systems manufactured and installed by the American Moistening Company are the product of sixty years of cooperative research with the textile industry. All Amco equipment shares four important common characteristics . . . simplicity, practicality, capacity and basic economy . . . reasons why Amco equipment is preferred by textile mills.

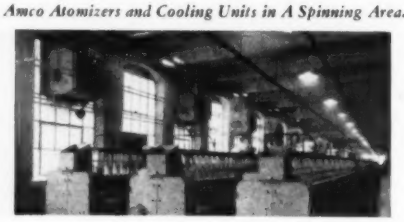
AMCO AUTOMATIC SELF-CLEANING ATOMIZERS provide better spray without drip or feathering down. Automatically clean both air and water orifices. Assure trouble-free humidification. Over 500,000 now serving the textile industry.

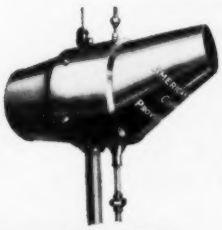
AMCO HUMIDITY CONTROL. The supersensitive hygroscopic control element assures exceptionally close regulation of relative humidity. Extremely simple design plus rugged construction for minimum maintenance and maximum durability.

AMCO EVAPORATIVE COOLING UNIT—adaptable to existing humidifying systems and providing extreme flexibility. Promotes comfort and efficiency of workers by maximum cooling effect from evaporation. Introduces outside air into room in amounts regulated by climatic conditions and inside requirements. Amco Evaporative Cooling maintains the relative humidity best suited to the fibres and processes.

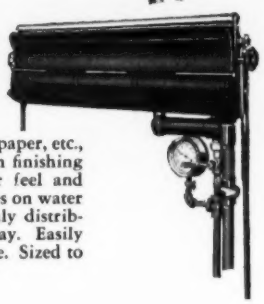


Amco Atomizers and Cooling Units in A Spinning Area.





AMCO AMTEX HUMIDIFIER. A self-contained unit designed for small areas, such as laboratories, where exacting conditions are to be maintained. No compressed air required.



AMCO DAMPENER, for textiles, leather, paper, etc., to apply moisture in finishing processes for better feel and appearance. Operates on water pressure, gives evenly distributed atomized spray. Easily regulated, adjustable. Sized to your requirements.

AMCO ELECTRO PSYCHROMETERS. An electrically driven fan draws air over wet and dry thermometer bulbs to provide extra accuracy of readings where space does not permit use of sling psychrometer.

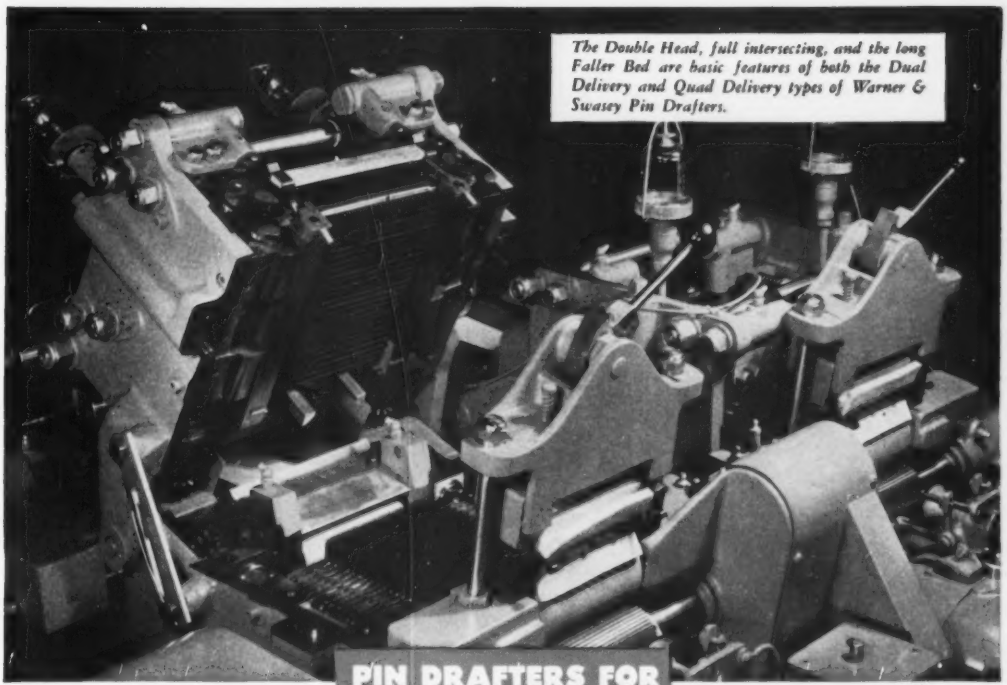
AMCO SLING PSYCHROMETER in protective casing. A convenient size for mill use. Thermometers are carefully calibrated and have magnifying type tubes for easy reading.

Write for complete description of any of these AMCO devices or AMCO humidification and cooling systems.

AMCO

HUMIDIFICATION AND COOLING

AMERICAN MOISTENING CO., AFFILIATED WITH GRINNELL COMPANY, INC., PROVIDENCE, R. I. • BOSTON • ATLANTA • CHARLOTTE



The Double Head, full intersecting, and the long Faller Bed are basic features of both the Dual Delivery and Quad Delivery types of Warner & Swasey Pin Drafters.

PIN DRAFTERS FOR

BETWEEN COMB AND REDUCER

you can do it better, faster, for less . . . with a

Warner & Swasey

Pin Drafter

TRADE MARK

Warner & Swasey Pin Drafters Provide a Simpler System

These new drafters eliminate costly steps in preparing sliver for spin. They deliver better, more even sliver in greater volume, and with less fly waste. They permit better blending for finer fabrics at less cost. You'll find it profitable to use these new Pin Drafters in your present production system—you'll find them still more advantageous as you adopt other improved textile machines which promise radically changed methods and better finished products.

Our Field Engineer in your territory is experienced and can give you complete information. Write

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Cleveland
TEXTILE MACHINERY DIVISION

BRANCH OFFICES

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ELECTRONICS

and Time Recording

For flexibility, economy, and accuracy never before achieved, IBM brings electronics to the field of time recording. Now Attendance Time Recorders can be installed in every department throughout your building, as desired, and self-regulated for uniformity without wiring to the Master Time Control. Any subsequent relocation of units is accomplished with a minimum of trouble and expense.

Time Stamps, Job Cost Recorders, Wall Clocks, and Signals also may be self-supervised and kept on system time—all *without special clock and signal wiring.*

Contact your local IBM office or write to the address below for more information on the newest concept of Time Control—through electronics.

IBM

TIME RECORDERS AND ELECTRIC TIME SYSTEMS

Proof Machines • Electric Punched Card Accounting Machines and Service Bureau Facilities • Electric Typewriters

International Business Machines Corporation, World Headquarters Building, 590 Madison Avenue, New York 22, N. Y.

introducing

NEW GARLAND RAWHIDE PICKERS

REINFORCED STICK HOLE

Molded rawhide reinforcements at the stick hole cut down stick hole wear in the new Garland picker.

Result: Longer picker life.

IMPROVED SPINDLE HOLE

The spindle hole is perfectly rounded, excavated, and strengthened by locked-in flanges at both ends.

Result: No reaming, no binding, stays round.

MOLDED FOR UNIFORMITY

The new Garland rawhide pickers are individually pressure molded to uniform dimensions.

Result: The elimination of filing and fitting.

STRENGTHENED PICKER HEAD

The stronger, heavier outside layer of rawhide eliminates the need for a rivet through the picker head.

Result: Perfect throw through a longer picker life.

Water Buffalo Hide

Prewar quality Water Buffalo Hides are used exclusively in the New Garland Pickers. Our past experience in picker manufacturing has proven that Water Buffalo Hide, because of its resilient and rugged nature, is the most suitable material for making box-loom pickers.

Thus we believe that Rawhide Pickers made from this material are more capable of withstanding the shock of today's high speed looms without inflicting serious damage to other parts of the loom.

Garland
MANUFACTURING CO.
SACO, MAINE

Manufacturers of rawhide loom pickers for over 80 years.

GENERAL ELECTRIC "TEXTILES

Dramatically– it presents the latest facts on these vital topics!

Mill Modernization
...lighting, air conditioning, better acoustics, better use of color, etc.

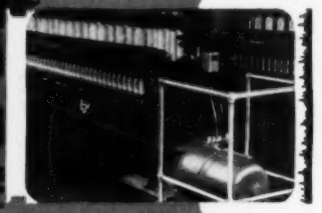
Finer Quality Control
. . . how it is being obtained in leading mills of every type.

Power at the Point of Use
. . . individual electric drives for a wide range of machines.

Materials Handling
. . . and the ways in which it can cut your manufacturing costs.

it's authentic!

Filmed under actual operating conditions in mills like yours!



Higher Controlled Speeds
. . . as a way to increase the productivity of your machines.

Modern Power Distribution
. . . and the part it plays in cutting over-all production costs.

Continuous Processing
. . . two machines or twenty in one efficient, cost-cutting range.

New Processing Methods
. . . and their importance in opening new textile markets.

ANNOUNCES

UNLIMITED"

A new, full-color sound movie on

Textile Mill Modernization

PACKED WITH QUALITY-IMPROVING, COST-CUTTING IDEAS!

With material and labor costs up and competition tougher, you don't want to miss a single opportunity to cut your manufacturing costs and improve the quality of your product. That's why we know you'll want to see "Textiles Unlimited," General Electric's new full-color sound movie on how textile mills are modernizing.

Practically every phase of modernization is covered in this dramatic, yet highly factual presentation. Lighting, air conditioning, power distribution, machine drives, quality control—these are only a few of the pertinent subjects treated. What's more, the ideas shown *in action* are practical—this film was made in mills located in every important textile area.

Don't delay! Arrange now to see this film. Mail the coupon—we'll do the rest. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

Here's how you can arrange to see this movie *and* get a FREE MODERNIZATION MANUAL at the same time.

Mail the coupon below to let us know you would like to see "Textiles Unlimited." We'll also send you a FREE copy of "How Textile Mills Are Modernizing," a 100-page illustrated reference manual for textile mill modernization. (Additional copies at cost—$1.25)

General Electric Co.
Section F654-8, Apparatus Dept.
Schenectady 5, N. Y.

Yes—I'd like to see your new modernization movie "Textiles Unlimited." Also, please send me a FREE copy of "How Textile Mills Are Modernizing" (Bulletin GEA-4998).

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Position .....

Company .....

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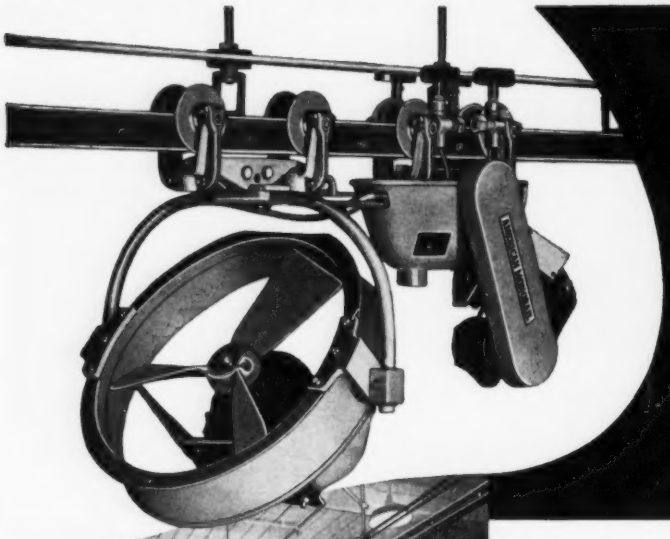
More Power to America

GENERAL ELECTRIC



Keep Ceilings Clean with AUTOMATIC CEILING CLEANERS

No Labor Cost
No Production Loss
No Ladder Accidents
No Fire Hazard

At a recent meeting of textile executives, twenty-four mills reported most common practice of blowing down ceilings once every twenty-four hours with frames running, or once a week when idle. This means lost production when the machines are shut down under the cleaners or extra time for cleaning labor.

ONE MILL REPORTED EXCELLENT RESULTS WITH AUTOMATIC CLEANERS!

Our engineers can show you how a simple high-velocity traveling fan unit can eliminate your ceiling cleaning problem entirely. Systems have been operating well over a year without blow down.

Write for copy of Bulletin CB-3 describing all the latest developments in Automatic Cleaners for Textile Mills.

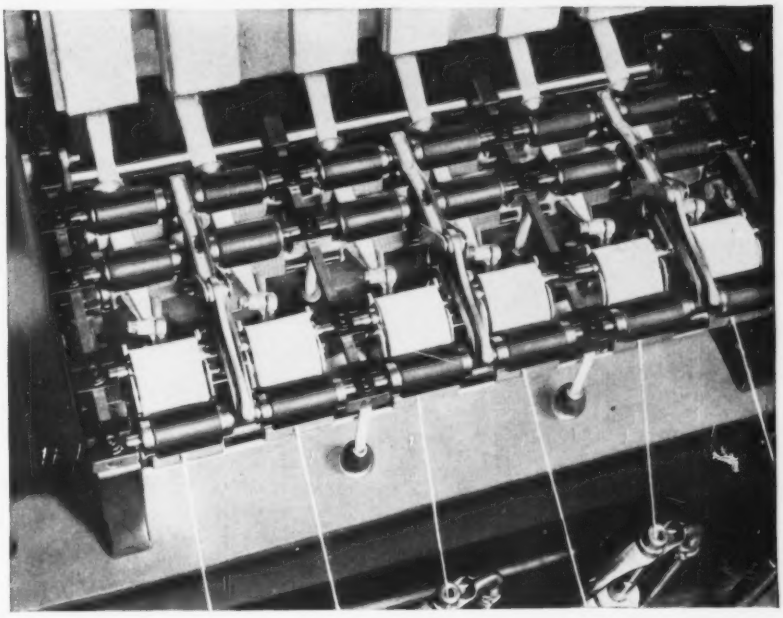
THE AMERICAN MONORAIL COMPANY

13108 ATHENS AVENUE — CLEVELAND 7, OHIO

For more information, write direct or use Reader Service post card.

If you spin your own yarn

You need . . .



WHITIN Single-Process Super-Draft ROVING FRAMES *because...*

Super-Draft is the only single-process roving frame that will satisfactorily control mixed fibres of different types and varying lengths. Uniform distribution of various fibres throughout the strand, accomplished through special aprons, special guide plates and special trumpets, results in even rovings and yarn and high quality fabrics. Staples of varying lengths including rayon, cotton and wool or any blend of these fibres can all be satisfactorily handled. Besides its versatility and product excellence, the Whitin single-process, Super-Draft roving frame offers your mill definite advantages from a cost standpoint: reduction in number of processes and floor space requirements... elimination of unnecessary machines . . . fewer spindles . . . economy in yarn costs and improvements in yarn quality. It will pay you to investigate.

Write today for complete information on Whitin Super-Draft and Inter-Draft Roving Frames.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS
CHARLOTTE, N. C. • ATLANTA, GA.

FEEL their sense of pride? Tuffer card clothing is a joy to put on. Its specially constructed cylinder cloth hugs the cylinder and holds the points in perfect alignment.

Soon these cylinders will begin to roll . . . opening up, separating, and paralleling the individual fibres . . . improving the operation of subsequent manufacturing steps.

Call in a Tuffer man—let him help you get the right start toward better quality and higher operating efficiency.

HOWARD BROS. MFG. CO. WORCESTER 8, MASSACHUSETTS

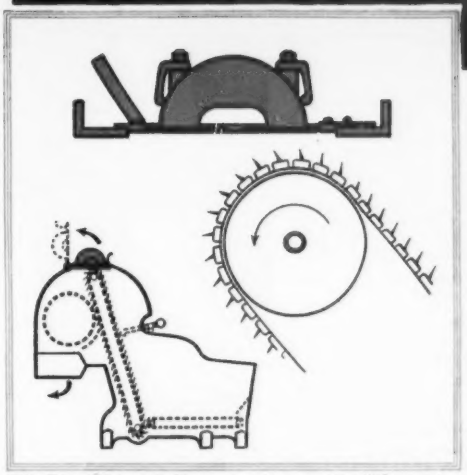
Southern Plants: Atlanta, Ga. and Gastonia, N. C.

Branches: Philadelphia, Pa. and Blanco, Texas *Direct Representation in Canada* A-6

TUFFER CARD CLOTHING

IMPROVES PRODUCTION ALL ALONG THE LINE

Eriez Magnets give more efficient and simplified MAGNETIC PROTECTION



1. Supporting angle iron.
2. Magnetic Separator in working position.
3. Magnetic Separator swung up for cleaning.
4. Handle for swinging back hinged Magnetic Separator.

The Eriez Magnetic Separator, shown above, is built for suspension over spiked apron feeders. This application assures superior cleaning results because the magnet is operating at a point where materials are opened and traveling at low speeds. Eriez Magnetic separation is simple. As material is conveyed to the top of the apron, it passes into the magnetic field where tramp iron is removed. Eriez magnets can be built any size required in order to fit existing or new machinery.

POSITIVE protection from fires and machinery damage caused by tramp iron is provided when Eriez non-electric permanent magnetic separators are installed in textile processing lines. The Eriez magnet is simple, requires no maintenance other than cleaning of collected trash. It is easily understood, maintained and installed by ordinary labor. There is no operating cost . . . The Eriez is light in weight, extremely flexible in design and economical in cost. It presents no additional fire hazard of its own to the process protected. The magnetic strength of Eriez Magnets does not diminish. It is permanent—the power is always there. No chance of electrical failure or human forgetfulness. Eriez Non-Electric Permanent Magnets are effective in removing Tramp Iron from all types of fibers. Submit your tramp iron removal problems to us, we will be glad to help in their solution.

"See our exhibit at the 22nd Exposition of Chemical Industries, Grand Central Palace, New York—November 28 to December 3, 1949"

Please send bulletin No. 104A and the following: TW-11

Data on Eriez Magnets for:
☐ Wool ☐ Cotton ☐ Worsted ☐ Other processing lines

Eriez data on: ☐ Gravity Conveyor ☐ Mechanical Conveyor
☐ Pneumatic Conveyor ☐ Equipment on Processing Machines

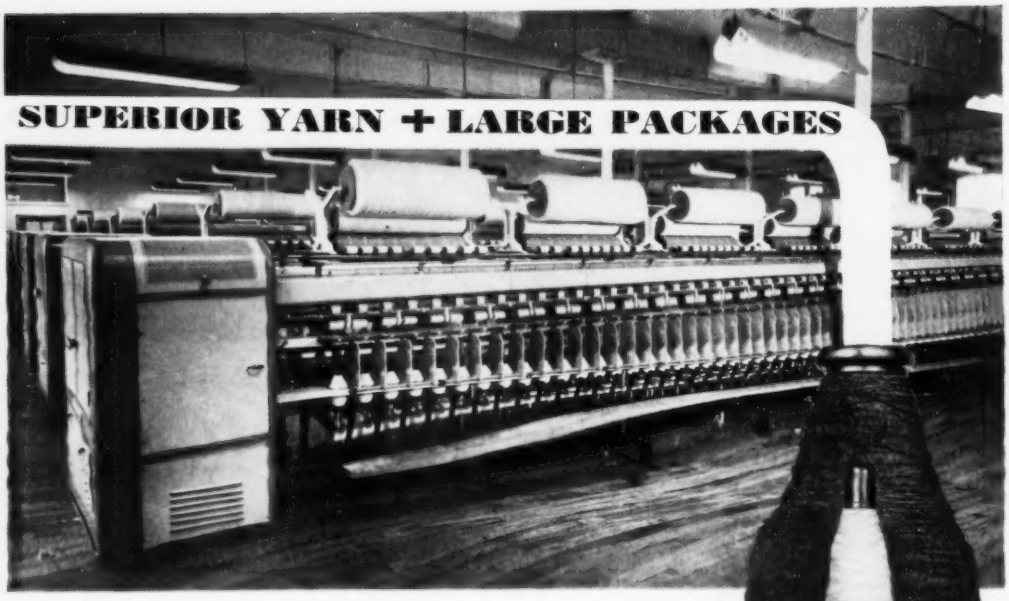
Name.....

Address.....City.....State.....

Pioneer of PERMANENT Magnetic Separation

● *When It's Magnetic Protection . . . See Eriez First*

ERIEZ MANUFACTURING COMPANY
501 East 12th St. • ERIE, PA.



SUPERIOR YARN + LARGE PACKAGES

A COST CUTTING COMBINATION

The large yarn packages spun by the new Davis and Furber Simplex Model "F" wool spinning frame, look to the future, as well as meet the demands of today.

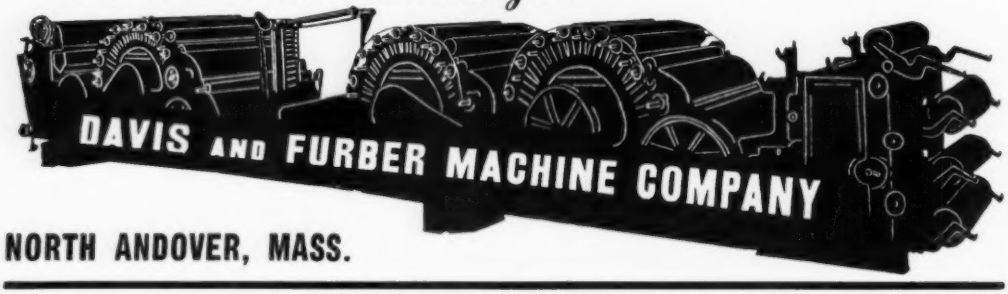
Model "F" does this and more to improve the competitive position of your mill. Namely: flexibility to enable you to spin all types and lot sizes of yarn, years of trouble-free operation, economy of floor space, plus many other advantages found in later processes.

Frame spinning of all yarn spun on the carded woolen system is the modern method of high output and low cost yarn production. The new Simplex wool spinning frame sets the standard in this field.

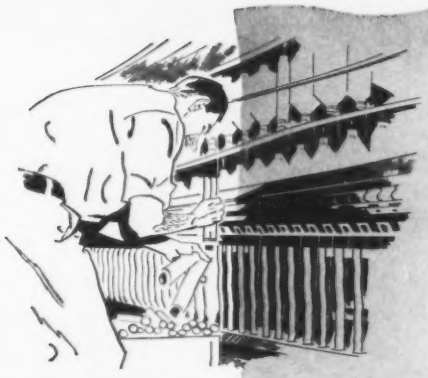
We have prepared a booklet describing this fast modern machine in full detail. Write for your copy today! ! !

The comparative sizes of the bobbins above clearly illustrate the advantages of modern spinning over the old method.

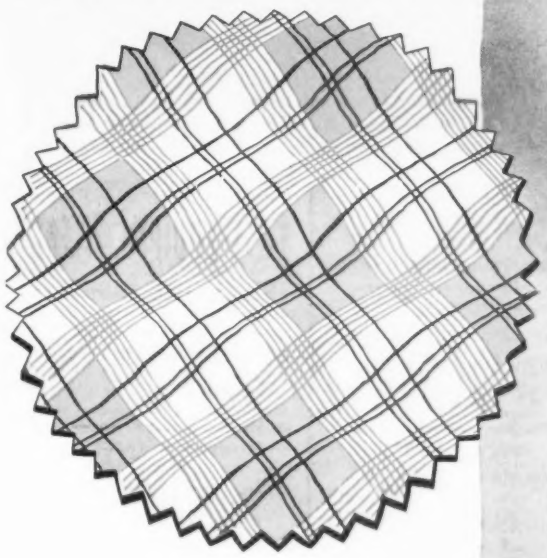
Don't Wait—Investigate



NORTH ANDOVER, MASS.



ALUMINUM IS LIGHT.... ALUMINUM IS STRONG



See the improvement it makes in spinning machines

Faster machines mean faster production. New spinners and twisters prove it with moving parts of Alcoa Aluminum. Aluminum's lightness speeds the machine cycle. Bearings last longer. Motion is more uniform and vibration-free. Aluminum's strength eliminates excess metal.

If you buy textile machinery, look for aluminum. It's a clue to faster production, longer machine life.

If you build textile machinery, look to Alcoa's Development Division for all the help you need. Alloy guidance, design and fabrication information are all at your disposal. Write ALUMINUM COMPANY OF AMERICA, 1942L Gulf Building, Pittsburgh 19, Pennsylvania.

ALCOA ALCOA ALUMINUM ®

ALUMINUM • MAGNESIUM

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ELECTRICAL CONDUCTORS • SCREW MACHINE PRODUCTS • FABRICATED PRODUCTS • FASTENERS • FOIL • ALUMINUM PIGMENTS • MAGNESIUM PRODUCTS

For Better, Faster, Lower-Cost Coating with Organosols and Hydrosols

● Industrial Ovens coating, evaporating and fusing equipment is increasing production, improving quality and cutting costs for many of the major coaters, proofers and converters of textiles, papers, films and foils. Besides offering higher speed, greater quality control and lower cost, this equipment is extremely flexible and safe in its operation.

The unit shown embodies many design and operating features seldom, if ever, found in ordinary coating equipment. These features result in higher production speed of goods, lower operator-attendant requirements and more accurate control of coating thickness.

Proper attention to safety factors and solvent loads assures trouble-free operation on even the most volatile solvents, with complete safety and dependability of evaporators and fusers in either continuous or non-continuous operation.

Because of sound engineering and advanced design, IOI systems for organosols give the operator many advantages, including the following:

1. True constant tension and velocity control of web through use of a synchronized system drive.

2. Flexibility of coating method through IOI combination coaters for roller or knife coating.

3. Close uniformity of evaporator temperature because of IOI high velocity jet system.

4. High coating speeds because of proper explosive vapor concentration control in evaporator.

5. IOI unified responsibility for the entire installation.

If your production involves the coating of textiles, papers, films or foils with any type of coating material, it will pay you to consult with IOI.

Write for "Blueprint for Industry, Part V—Coating and Handling Equipment for Textiles, Papers, Films and Foils"

IOI EQUIPMENT FOR THE TEXTILE INDUSTRY

- Fabric Coaters and Systems
- High-Speed Convection Slashers
- Loop and Festoon Driers
- Impregnating Systems
- Cake and Skein Driers
- Constant Tension Wind-ups and Unwind Machines
- System Drives

INDUSTRIAL OVENS, INC.

IOI ENGINEERING VERSATILITY

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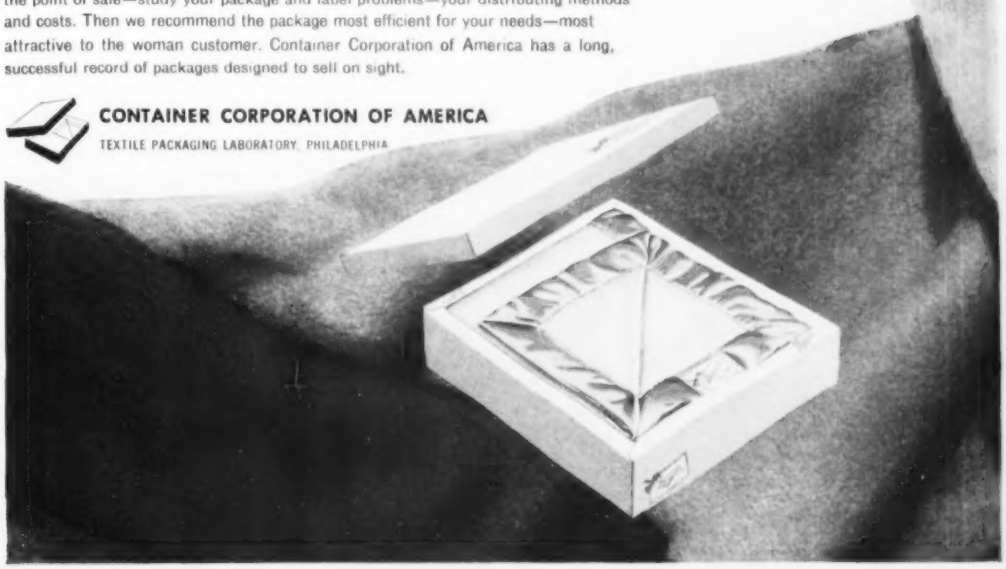
DESIGNED TO ATTRACT WOMEN

What textiles do you make and market? Baby blankets or bed linen, work clothes or wash cloths? Whatever your product, your package has a twofold job—to protect it, and to attract the woman customer. We can help you do both—better. . . . Let our Textile Packaging Laboratory help add selling power to your package by color, style, design. We research consumer reaction at the point of sale—study your package and label problems—your distributing methods and costs. Then we recommend the package most efficient for your needs—most attractive to the woman customer. Container Corporation of America has a long, successful record of packages designed to sell on sight.

CONTAINER CORPORATION OF AMERICA

TEXTILE PACKAGING LABORATORY, PHILADELPHIA



L. F. Dommerich & Company

Executive and General Offices

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NEW YORK 16, N. Y.

Telephone: Murray Hill 3-8650

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For Manufacturers and Merchants

Inquiries as to our services solicited

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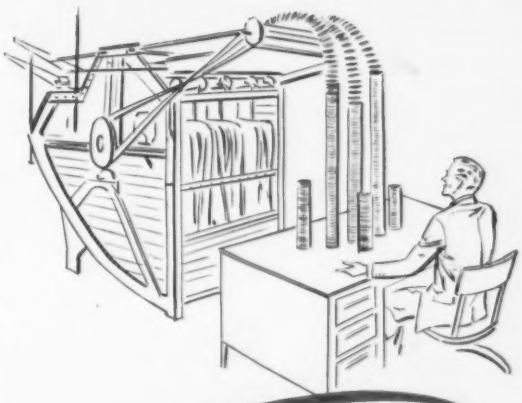
ESTABLISHED 1840

The Fleet Line

STAINLESS FULLING MILL



The FIRST stainless fulling mill on the market, there are now several hundred of these machines in use. Time after time, when replacing obsolete fulling mills, it has paid for itself in 3 years or less, through savings effected. Here are some of the reasons why.

1 **INCREASED PRODUCTION** — Big capacity mill can handle 12 pieces of men's wear or 16 pieces of dress goods in one load.

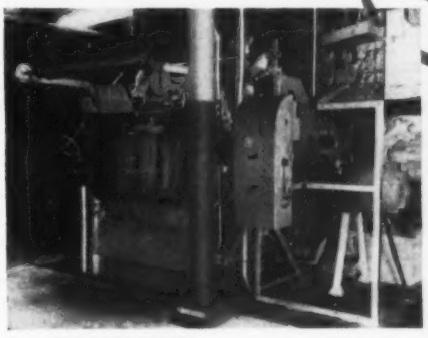
2 **LOAD FLEXIBILITY** — Even 12 piece (800 lbs.) mill can handle as few as 2 pieces.

3 **IMPORTANT SAVINGS** — Soap — 20%; dead loss — 1/10 to 1/4; fulling time — 10 to 33%.

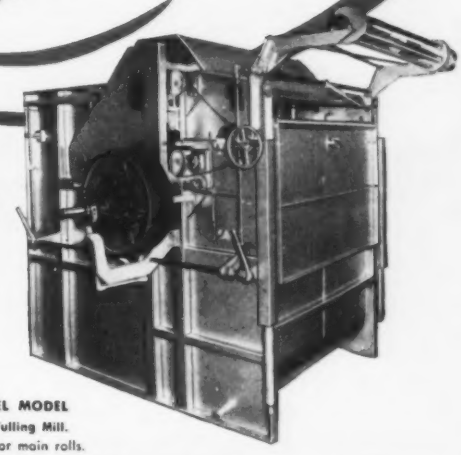
4 **RUGGED CONSTRUCTION** — Making for long life and minimum maintenance.

Features which contribute to better quality of product will be explained on request.

In 3 years or less **YOU GET YOUR INVESTMENT BACK**



STANDARD MODEL
With stainless steel parts contacting cloth.



NEW ALL STAINLESS STEEL MODEL
Air-Fleet Line Stainless Steel Fulling Mill.
Finger Tip Pneumatic controls for main rolls.

RIGGS AND LOMBARD, INC.

FOOT OF SUFFOLK STREET, LOWELL, MASS.

The Fleet Line — A complete line of modern equipment to successfully handle present day wet-finishing, carbonizing and dyeing requirements.

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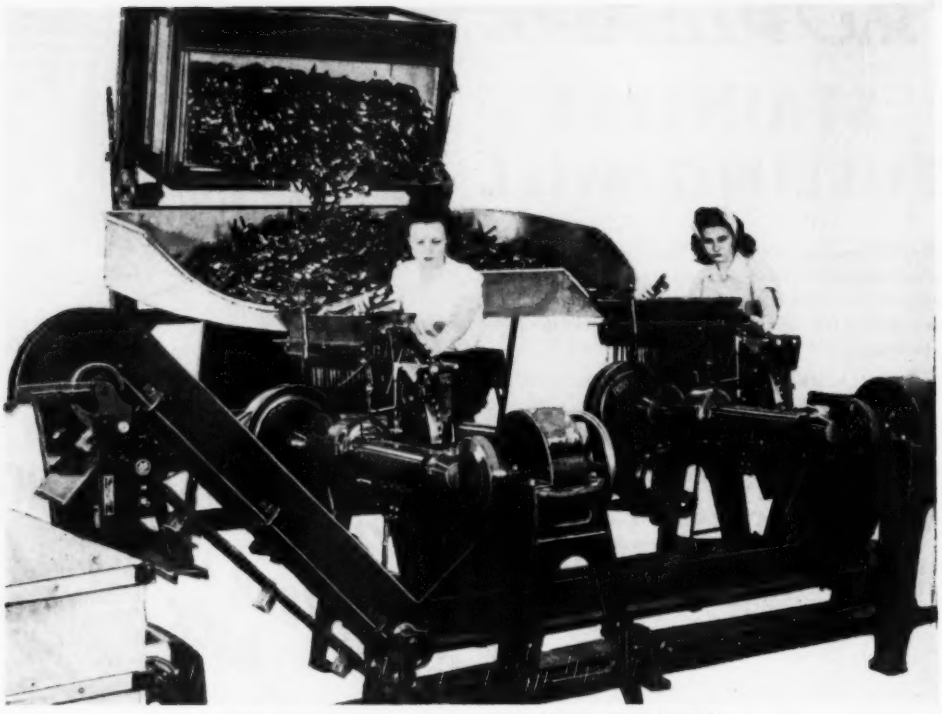


TYPE K MACHINES - BOBBIN BOX HOIST - CONVEYORS

YOU KEEP COSTS DOWN WHEN YOU KEEP UP TO DATE

For over thirty-two years, Terrell engineers have worked continuously to help the textile industry solve its growing variety of bobbin cleaning problems. During that time, the Type K and the Type L loom bobbin cleaning machines have become a vital and increasingly important factor in over-all efficiency and economy—in mills of all sizes—in all parts of the world. Today, Terrell's modern bobbin cleaning and handling equipment offers you the fastest, safest, and most economical system ever devised for stripping waste from filling bobbins.

Terrell engineers will show you, by actual cost comparison, how much this equipment will cut your cleaning and handling costs.

A NEW TERRELL SERVICE

OLD MACHINES RECONDITIONED

We have recently set up
A New Service

whereby mills can have their bobbin cleaning machines repaired, or late and improved assemblies added to them. Complete information on this new and very practical plan is available on request.

The TERRELL COMPANY, *Inc.*

CHARLOTTE, N. C.

Built To Your Specifications By

EX-CELL-O

... a great name in the
precision machine tool field!

Ex-Cell-O has been making precision parts to customers' specifications for close to 30 years. Today, these Ex-Cell-O products include parts for the textile industry . . . from spindles and various small parts to large assemblies. Ex-Cell-O has the facilities—machines, heat treat, assembly, and inspection—to produce your precision parts economically, in small or large volume, and in accordance with your delivery schedule. For a quotation, send a part blueprint to Ex-Cell-O Corporation in Detroit today.

Bulletin No. 26181 describes Ex-Cell-O's textile products. Write now for your free copy.

EX-CELL-O CORPORATION DETROIT 32

XLO
EX-CELL-O for PRECISION

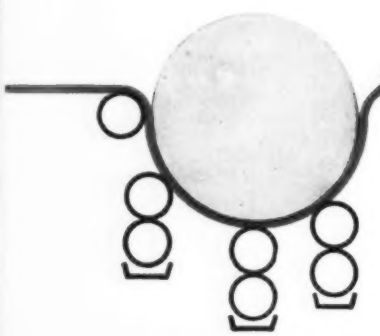
PROFIT-MINDED PRINTERS

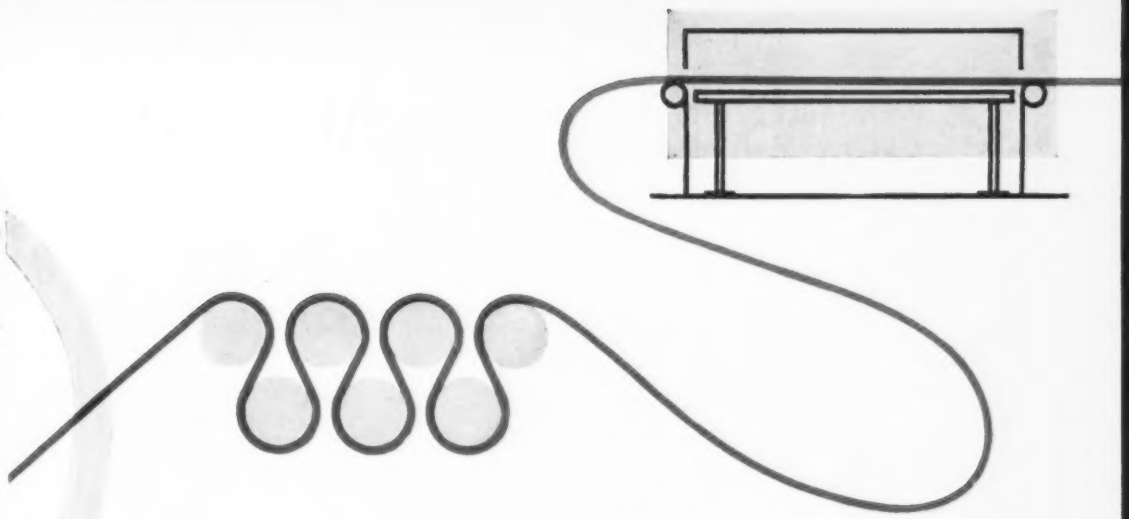
USE ARIDYE PIGMENT COLORS

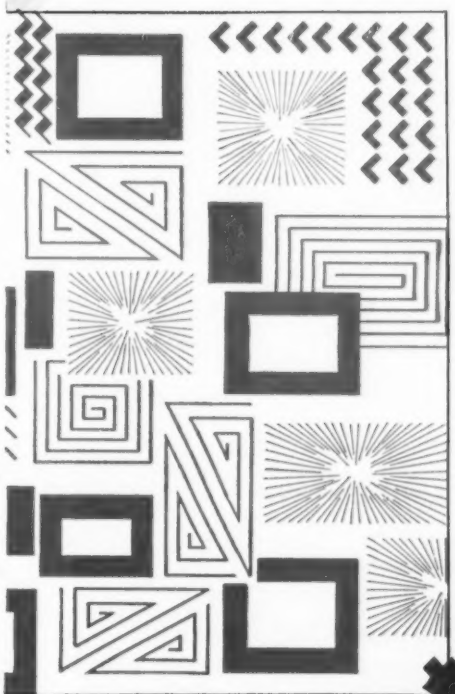
BECAUSE THEY ARE . . .

FINAL IN SHADE

. . . THE LAST WORD IN ECONOMY







Final in shade . . . a minimum of costly seconds . . . that's why Aridye® Pigment Colors are the choice of printers who count their production pennies!

When shades are final as the fabric leaves the roller, printing defects can be detected and corrected immediately . . . yardage and money are saved. In addition, Aridye Pigment Colors eliminate 3 after treatment operations, thus saving time, steam, water, chemicals, and labor. They also effect savings in time and expense through quicker pitching or fitting of patterns.

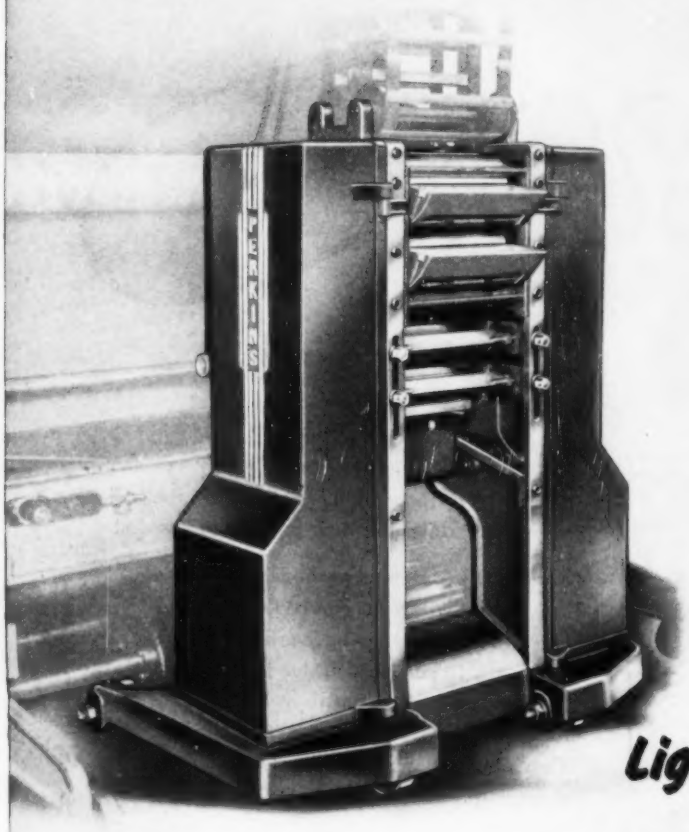
An Interchem Technical Representative will be glad to discuss with you the many ways in which *you* can benefit from the use of Aridye Pigment Colors. Phone or write Interchemical Corporation, Textile Colors Division, P. O. Box 357, Fair Lawn, N. J.

INTERCHEMICAL CORPORATION
Textile Colors Division
FAIR LAWN, N. J. • ROCK HILL, S. C.
PAWTUCKET, R. I.

Aridye *Pigment Colors*

 For more information, write direct or use Reader Service post card.

PERKINS Fiber Conditioner



The more efficient way to clean Wool Fibers

- ***Lower cost***
- ***Less space***
- ***Lighter weight***

The Perkins Wool Fiber Conditioner provides the solution to economical burr-removal by means of a new, simple and highly effective action that reduces substantially the cost of mill production. Its efficiency enables manufacturers to take advantage of the use of burry wool stock and still produce a comparable product . . . and, in the case of higher grade fibers, lessens the necessity for costly, time-consuming carbonization.

B. F. PERKINS & SON, Inc.
HOLYOKE, MASSACHUSETTS

BWH
DEPENDABLE RUGGEDNESS
BOSTON WOVEN HOSE & RUBBER CO.
CONCORD
BWH
1. NEW oil, grease and sun-resistant cover. Long wearing, tough, abrasion resistant.
2. Asbestos braid insures maximum cover adhesion, includes new type static-conducting wire.
3. High-tensile steel wire for strength and safety.
4. Heat & oil-resistant tube.

NEW BWH COVER DEFIES "RUBBER EATERS"

RESISTS OIL, GREASE, SUN AND ABRASION DAMAGE

Oil, grease, strong sunlight and abrasion are factors that can't be controlled in many industrial operations. Yet they are all "rubber eaters" that tend to break down covers on steam hose and to shorten its service.

BWH technologists sweated over the problem for many laboratory hours before they developed this new, die-hard, synthetic rubber cover for Concord #10 Steam Hose. This improved cover adds so much to steam hose life, nobody with an eye to operating expenses can afford to overlook it. Yet it costs no more than ordinary hose!

Here's what makes Concord #10 a good choice for hard jobs:

1. It has the same dependably strong heat- and oil-resistant tube that won fame for extra service in BWH Bull Dog Steam Hose.
2. It is fortified with braids of high-tensile steel wire which are heat and pressure resistant. Gives strength with extreme flexibility.
3. Asbestos braid assures perfect cover adhesion, includes new type static-conducting wire.
4. NEW cover is unharmed over longer periods by oil, grease and sunlight—resists abrasion and highest steam temperatures.

When you need EXTRA safe hose that prevents "burst" explosions, withstands working pressure to 200 lbs. and gives you more for your money, investigate Concord #10 with new abuse-resistant cover!

HAVE YOU A JOB WHERE STAMINA COUNTS?

Bring us your toughest problems... we're specialists in solving them. Consult your nearby BWH distributor or write us.

Another Quality Product of

BOSTON WOVEN HOSE & RUBBER COMPANY

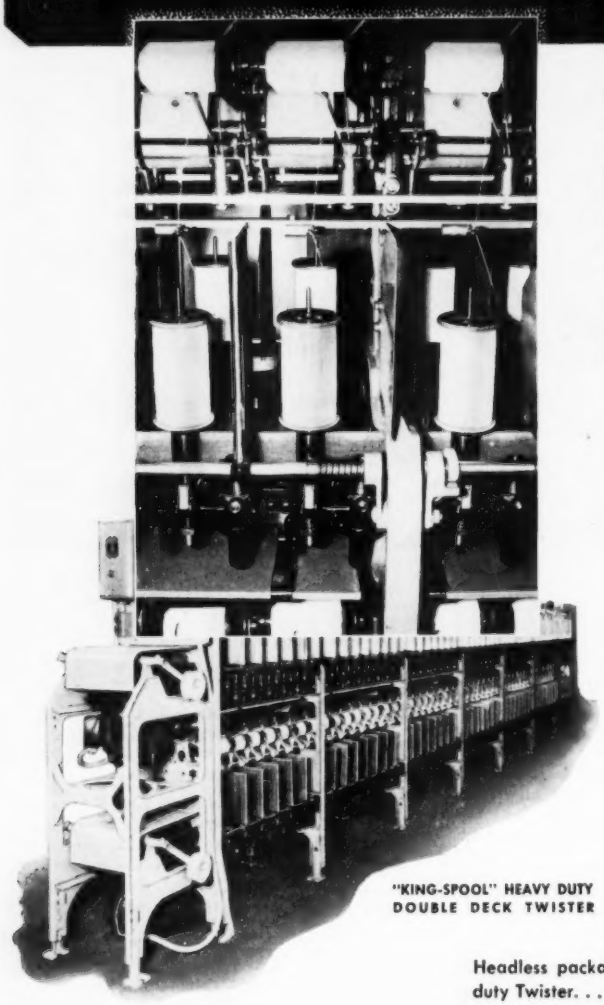
Distributors in all Principal Cities

PLANT: CAMBRIDGE, MASS., U.S.A. • P.O. BOX 1071, BOSTON 3, MASS.

"KING-SPOOL" TWISTER

operates at high speed

...WITH MOST TYPES OF YARN



"KING-SPOOL" HEAVY DUTY DOUBLE DECK TWISTER

The "King-Spool" Twister, with a completely new and superior take-up package designed to increase throwsters' profits through greater production, will package low twist voile yarns, nylon, high twist single end crepe, cable crepe as well as combination yarn; spins from either regular bobbin or pirn.

SPECIAL FEATURES AND ADVANTAGES OF THE "KING-SPOOL" TWISTER INCLUDE:

- Provision for "tail" used in magazining
- Overend delivery without sloughing off . . . open end and open wind allow for easier, more thorough steaming
- Collapsible guides
- Cork rolls operate at constant speed . . . provide uniform tension on the "King-Spool"
- Automatic bobbin-lifter . . . When "King-Spool" bobbin becomes full, or if thread should break, the knock-off motion lifts package from cork roll, thereby eliminating burnt yarn and reducing waste
- Adjustable swing tension minimizes breakage
- "Oilwell Spindle" . . . holds a supply of permanently clean oil sufficient for a year's constant operation . . . or Roller Bearing Spindle
- Adjustable spindle swings
- Unit Control . . . a compact, self-contained unit controlling both twist and traverse from one end
- "King-Spool" bobbin, of durable molded plastic, is available in several sizes

Headless packages may also be produced on this heavy-duty Twister. . . . Write for detailed information to Fletcher Works . . . builders of fine textile machinery since 1850.

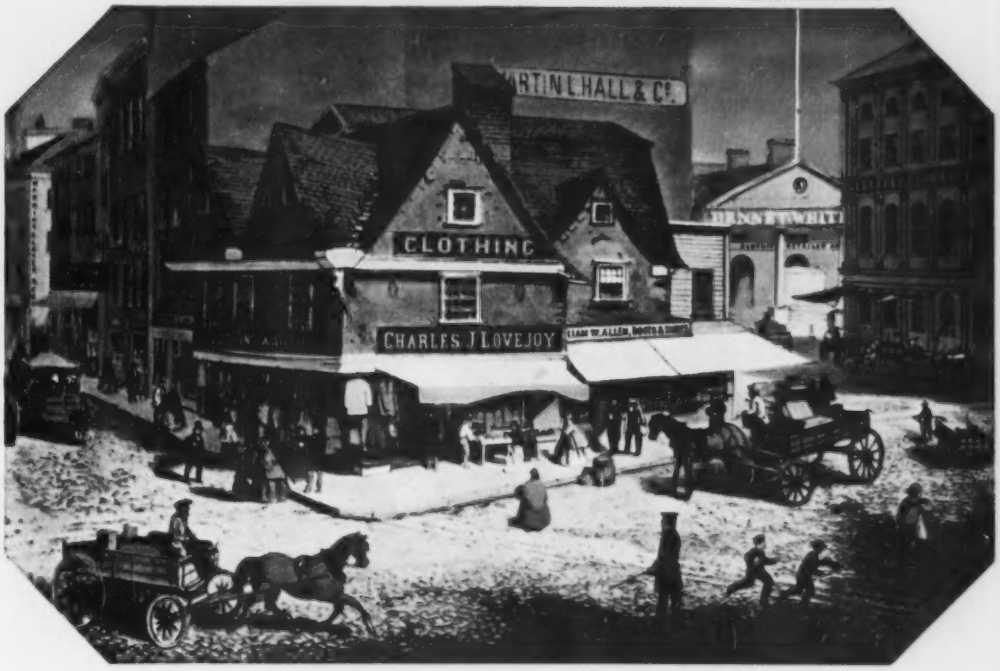
FLETCHER WORKS

223 GLENWOOD AVE. PHILADELPHIA 40, PA. ESTABLISHED 1850

At wholesale and retail trade levels, the wide variety of new styles and sizes causes great merchandise risks.

THE ISELIN DIARY, 1868

THE BETTMANN ARCHIVE



Putting Stock in the Future?

Readying new wares for each season, manufacturers in 1868 put a lot of stock in the future. Many found financial aid and security against unforeseeable risks in Iselin's Factoring service, already 60 years old . . . Today, without incurring an obligation to be repaid in the future, you can obtain funds and eliminate credit risks through Iselin's service. It will help you build seasonal inventories for sale to your customers, and broaden your distribution with security . . . Our methods are based on 141 years' experience in bringing success to our clients. Use them to expand profitably and safely. Send for booklet on our Factoring service to industry.

William Iselin & Co., Inc.

357 Fourth Avenue, New York 10, N.Y.

FOUNDED IN 1808

HAYES new way
... cuts costs TODAY

Weaving the Coronation Robes

Every Mill Can Profit with Light Metal Beams

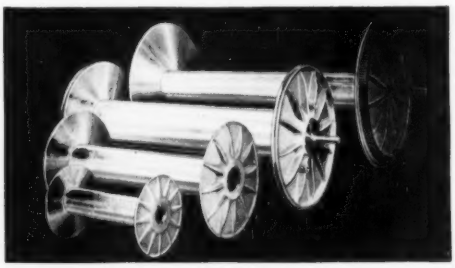
Fabrics for the royal throne . . . slowly, tediously woven on hand operated looms. Yet, no finer, though far more costly, than the production made fabrics which fill the closets of every American home today.

Modern machinery in modern mills has made possible the miracle of low-cost quality fabrics . . . at a profit for the maker. One of the newest innovations to insure this profit is Aluminum and Magnesium beams, developed and produced by Hayes.

These light metal beams offer an opportunity for considerable savings in the cost of shipping and handling . . . because they weigh less than half as much as conventional beams. And because they cannot snag, splinter or rust like wood beams and cast iron, they sharply reduce the number of rejects.

Precision built and balanced, Hayes beams run smoothly with minimum head deflection, even when fully loaded. Worker fatigue is lessened. Hayes beams fit all Standard makes of looms and warpers.

Write or wire for complete information on Loom Beams, Sections Beams and Tricot Beams. Ask for Catalog 1-21.

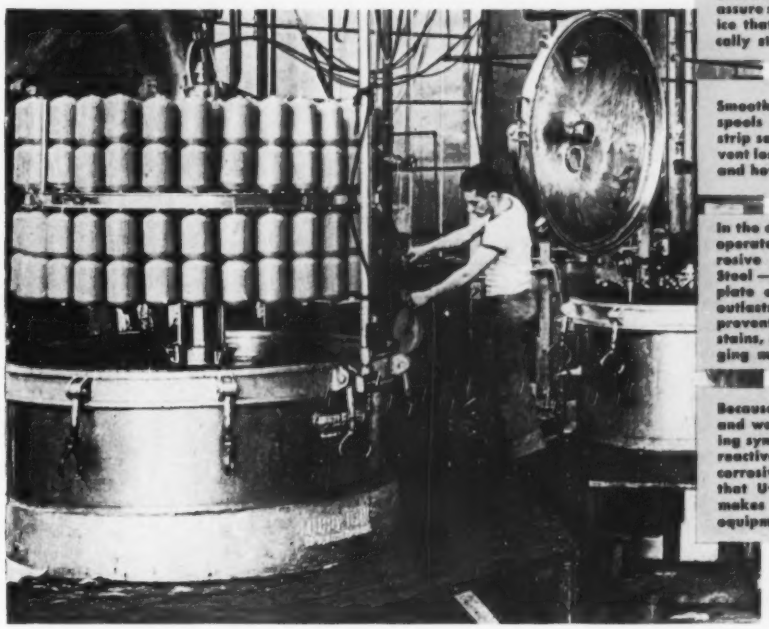


HAYES

INDUSTRIES, INC.

HOME OFFICE: **Jackson, Michigan**

Who said it costs more to use Stainless Steel?



Consider these facts:

Heddles, reeds and drop wires made of U·S·S Stainless Steel wire last far longer and are more efficient than ordinary parts. For chemically treated synthetic yarns, Stainless Steel heddles and reeds assure such definitely superior service that they have become practically standard equipment.

Smooth, easily cleaned dyeing spools made of U·S·S Stainless strip save time and labor and prevent losses from yarn breakage . . . and how they last!

In the dye house where equipment operates under exceedingly corrosive conditions, U·S·S Stainless Steel — whether used in sheet, plate or tubular form — not only outlasts other materials but by preventing fabric losses caused by stains, canker, color-lag and snagging more than pays for itself.

Because piping, aging tanks, driers and washers used for manufacturing synthetic fibers must withstand reactive reagents that are highly corrosive, the superior protection that U·S·S Stainless Steel assures makes it most economical for such equipment.

STAINLESS STEEL's ability to keep textile-processing equipment longer on the job—to reduce shutdowns for repairs to a minimum—to materially decrease maintenance and cleaning costs, make Stainless Steel for many applications not only the most efficient but, in the long run, actually the *lowest-cost* material you can use.

The thing that gives Stainless Steel a marked *cost-cutting* advantage over other materials is its proved superiority: in resisting the inroads of corrosive attack; in preventing metallic contamination; in resisting erosion, wear and abrasion; and in withstanding extremes of heat and cold. These properties are inherent in the steel—they cannot wear off or chip off with use.

It is not mere coincidence that mills having the best production records are invariably large users of Stainless Steel—and are constantly extending its application. They've found that the difference it makes in performance is *always* greater than any difference in initial cost that its use may involve.

In U·S·S Stainless Steels we offer you a complete family of *perfected* special-purpose steels that will meet almost any requirement of textile mill service. Our engineers are specialists in its use and will gladly assist you in selecting the proper type to ensure the greatest benefits from its application.

AMERICAN STEEL & WIRE COMPANY, GENERAL OFFICES: CLEVELAND, OHIO · CARNEGIE-ILLINOIS STEEL CORPORATION, PITTSBURGH & CHICAGO
COLUMBIA STEEL COMPANY, SAN FRANCISCO · NATIONAL TUBE COMPANY, PITTSBURGH · TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM
UNITED STATES STEEL SUPPLY COMPANY, WAREHOUSE DISTRIBUTORS, COAST-TO-COAST · UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS

U·S·S STAINLESS STEEL

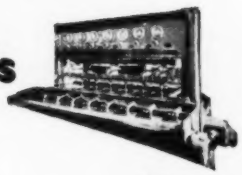
SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

9-2022

UNITED STATES STEEL

LEAD LININGS

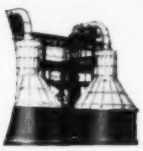
...blunt the teeth of Hungry Acids



In unnumbered processing plants across the country, sheet lead plays a vital role in keeping acids under control. Because, among other unique properties given lead by nature, is *stern resistance to corrosion.*

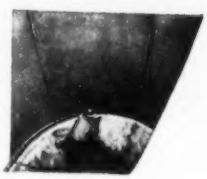
• •

It is this innate ability to blunt the teeth of hungry acids, coupled with several of lead's other "abilities"—adaptability, workability, durability and availability—that makes the use of lead a virtual "must" as a lining for tanks, tubs and vats in which corrosive liquids are handled, moved or stored.



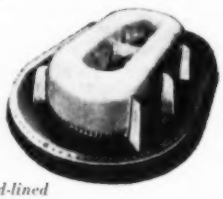
• •

National Lead markets sheet lead of several types—chemical, antimonial, tellurium and antimonial-tellurium. Each has its functional place in the processing field. All are produced with a know-how that makes the most of the metal's inherent qualities. From starting slab to sturdy sheet, the rolling is done under the watchful eyes of experienced operators. The sheet comes off the cutting table smooth, uniform, and true to weight and dimensional specifications.



• •

If your acid-handling activities demand lead's unusual combination of properties, use National Lead sheet. And if you would like our views on ways and means of getting optimum results from sheet lead installations, consider us at your service.



Look to the Leader for Lead

...in everything from lead pipe...valves...sheet...and lead-lined or lead-covered equipment...to complete acid recovery plants

NATIONAL

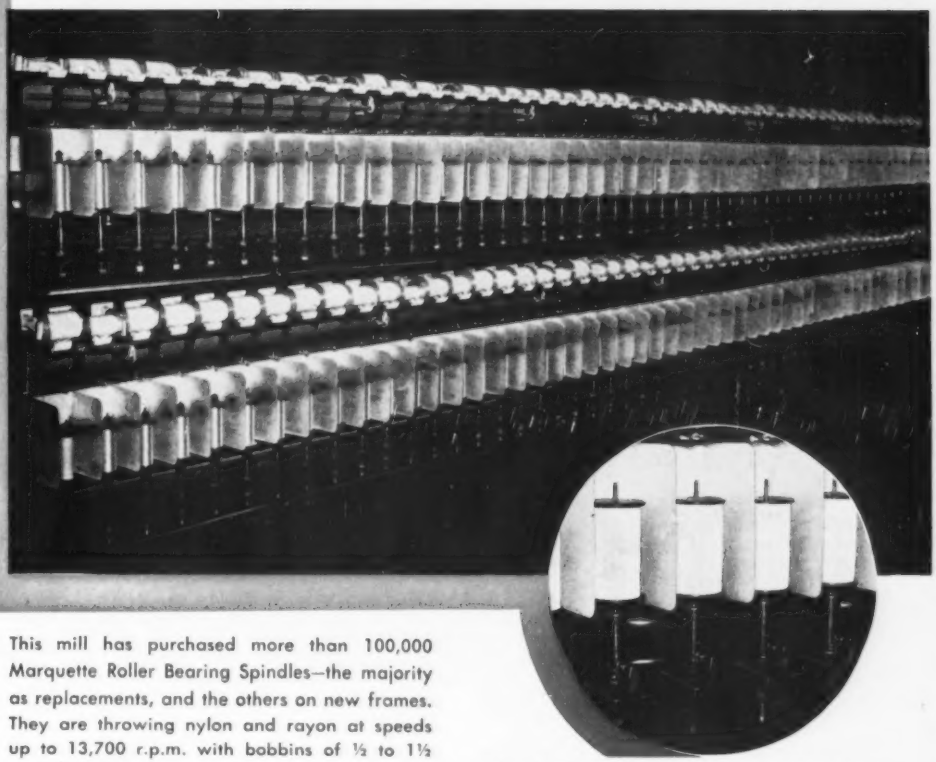
Lead Company

New York 6; Baltimore 3; Buffalo 3; Chicago 8; Cincinnati 3; Cleveland 13; Pittsburgh 12; St. Louis 1; Boston 6 (National Lead Company of Mass.); Los Angeles 23 (Morris P. Kirk & Son, Inc.); Philadelphia 23 (John T. Lewis & Bros. Co.); Atlanta (Georgia Lead Works, Div. of Cincinnati Branch); Toronto, Canada (Canada Metal Co. Ltd.).

For more information, write direct or use Reader Service post card.

Marquette ROLLER BEARING SPINDLES *with* FULL-FLOATING FOOTSTEP BEARING

For Cotton, Rayon, Nylon, Wool, Worsted



This mill has purchased more than 100,000 Marquette Roller Bearing Spindles—the majority as replacements, and the others on new frames. They are throwing nylon and rayon at speeds up to 13,700 r.p.m. with bobbins of ½ to 1½ pound capacity.

By operating at higher speeds, with larger packages and reduced power consumption, this mill is getting **more yarn at lower cost.** You too can modernize your old frames with Marquette Roller Bearing Spindles . . . or you can specify them on new frames. For a test installation, contact our home office or one of our representatives.

PROTECTED BY U. S. AND FOREIGN PATENTS, AND PATENTS PENDING

The Marquette
METAL PRODUCTS CO.
CLEVELAND 10, OHIO
SUBSIDIARY OF CURTISS-WRIGHT CORPORATION

Representatives:
BYRD MILLER, WOODSIDE BLDG., GREENVILLE, S. C.
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WINDSHIELD WIPERS FOR AIRCRAFT, TRUCKS AND BUSSES • PRECISION PARTS AND ASSEMBLIES

Industrial RELIABILITY

Whether it is one tank or a dozen...large or small...pressure or gravity...you can depend on the workmanship of Southland Steel Products. Years of industrial application experience satisfying our chemical and processing customers is your assurance that a Chattanooga Boiler and Tank job will serve you efficiently... economically. So, when you need structural steel, hoppers, bins or tanks, call on us for reliable steel fabrication.

CHATTANOOGA BOILER and TANK CO.

Chattanooga, Tenn.

OVER 40 YEARS OF SERVICE STEEL SOUTHLAND PRODUCTS **TO AMERICAN INDUSTRY**

Improved
EMERY TWITCHELL OILS
for Cotton Finishing
...Regular and Sanforized Fabrics

To provide oils to meet varying finishing requirements, Emery manufactures three Twitchell Products. All of them are extremely stable, offering maximum resistance to oxidation, yellowing and rancidity. Won't corrode machines or metal parts; cause no gumminess or tackiness. *Most important,* treated fabrics retain rewetting properties indefinitely.

For FAST Rewet

Twitchell Oil 7250. All fatty-base oil imparting highest speed of wet-back. Gives soft hand . . . minimizes shade changes . . . enhances bloominess and color values. Minimum volatility, no tendency to "fog."

For MEDIUM SOFT Hand

Twitchell Oil 7240. A fatty-mineral base oil for medium soft hand is an efficient rewetting agent. Compounded to keep "fog" to a minimum.

For MINIMUM effect on Hand

Twitchell Oil 7231. All mineral base. Best where good wetting back, minimum effect on hand and greatest economy is sought. Compounded to keep "fog" to a minimum.

For REGULAR Finishing

Each of these three oils is recommended for regular finishing, for slashing, for increasing absorbency of towelling, wiping rags, paper maker's felts, etc. Twitchell 7210, 7211 and 7230 provide still lower cost oils for all types of cotton finishing where lower-quality, less-efficient assistants are adequate.

Our Sales Service Department is ready to schedule plant trials at your convenience.

OTHER EMERY PRODUCTS FOR TEXTILE PROCESSING

EMERSOL ELAINES

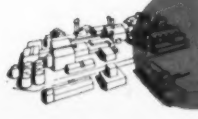
Current production of all Emery Oleic acids shows higher resistance to oxidation, better color stability, less tendency toward rancidity, greater odor stability, lowest unsaponifiable content of any commercial red oil.

EMERSOL STEARIC ACIDS

Manufactured to uniform quality standards . . . exceptional stability of odor and color (heat test) . . . unique qualities retained in most finished products.

ACIDS AND GLYCERIDES

Emery also manufactures: Animal, Cottonseed, Coconut, Soya Fatty Acids . . . Hydrogenated Acids and Glycerides.

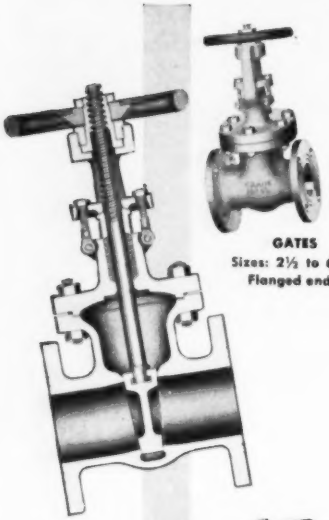


EMERY INDUSTRIES, INC.

4300 CAREW TOWER · CINCINNATI 2, OHIO

Branch Offices:
3002 Woolworth Bldg., New York 7, N.Y.
187 Perry St., Lowell, Mass.
401 N. Broad St., Philadelphia 8, Pa.

See these new CRANE Corrosion-resistant valves



GATES
Sizes: 2½ to 6 in.
Flanged ends.

GATES, GLOBES and CHECKS in 18-8 Mo and Monel

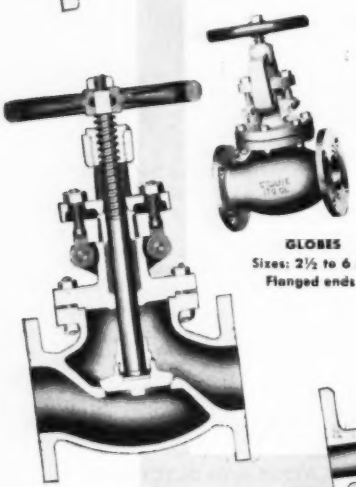
Working Pressure: 150 pounds, liquid or gas

Available in either all 18-8 Mo or all Monel, these new valves are Crane Co.'s most advanced contribution toward better control of processing fluids.

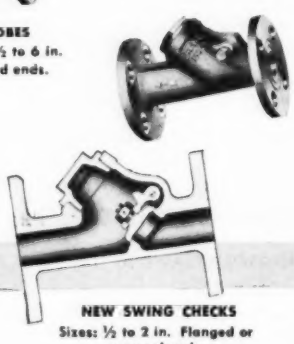
In developing these valves, Crane engineers have overlooked nothing—in materials or mechanical design—that would assure the most positive performance, economical operation, and ease of maintenance. Rugged construction provides greater safety for the operator and contributes substantially to longer valve life, even under severe corrosive conditions.

Take your choice of materials. All parts in contact with flow are either Crane Quality 18-8 Mo or Monel—materials produced under the most rigid control. See these valves—the best buy in their class—at your local Crane Branch, or **ask for Catalog No. 320,** describing Crane corrosion-resistant piping materials.

CRANE CO., 836 South Michigan Ave., Chicago 5, Illinois
Branches and Wholesalers Serving All Industrial Areas

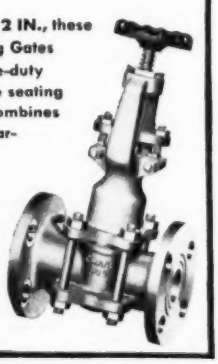


GLOBES
Sizes: 2½ to 6 in.
Flanged ends.



NEW SWING CHECKS
Sizes: ½ to 2 in. Flanged or screwed ends.
Also straightway flow pattern in sizes 2½ to 6 in.

IN SIZES ½ to 2 IN., these new Crane Plug Gates serve as double-duty valves. Unique seating development combines best service characteristics of conventional gate and globe valves. Ideal for process and chemical industries.



EVERYTHING FROM . . .

VALVES
FITTINGS
PIPE

CRANE

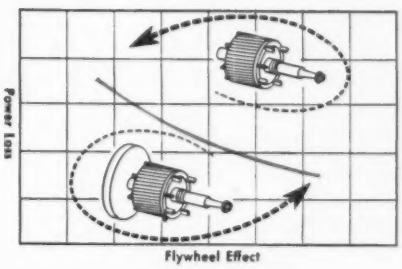
PLUMBING
AND
HEATING

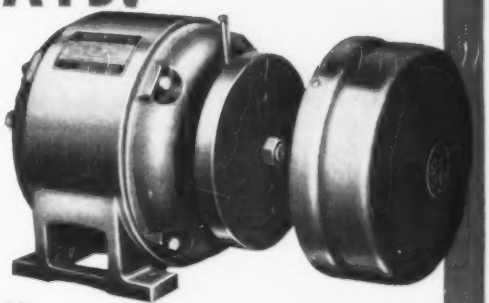
FOR EVERY PIPING SYSTEM

For more information, write direct or use Reader Service post card.

the new G-E flywheel loom motor

cuts loom operating costs 4 WAYS!



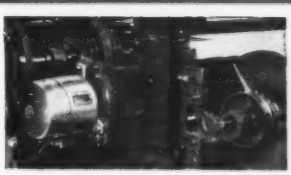


1. IT CUTS YOUR POWER COSTS!

Where a study indicates the need for a motor with additional flywheel effect, a *standard* General Electric loom motor with a flywheel integrally mounted will give you worthwhile power savings. As the chart shows, it reduces the peaks and valleys of the motor input, thereby cutting power losses.

2. IT CUTS THE SIZE OF MOTOR YOU NEED!

Often, a flywheel permits the use of a motor one size smaller than would be possible with a conventional loom motor. On the other hand, increased loom speed can be obtained without using a motor of greater horsepower.



3. IT PERMITS INCREASED PRODUCTION

With a flywheel on its shaft, a 1200 rpm motor may deliver performance equivalent to that of an 1800 rpm motor. This allows changing loom speeds in smaller increments and the use of stronger pinions—both well-recognized benefits.

4. . . . and IT ACTUALLY IMPROVES LOOM PERFORMANCE.

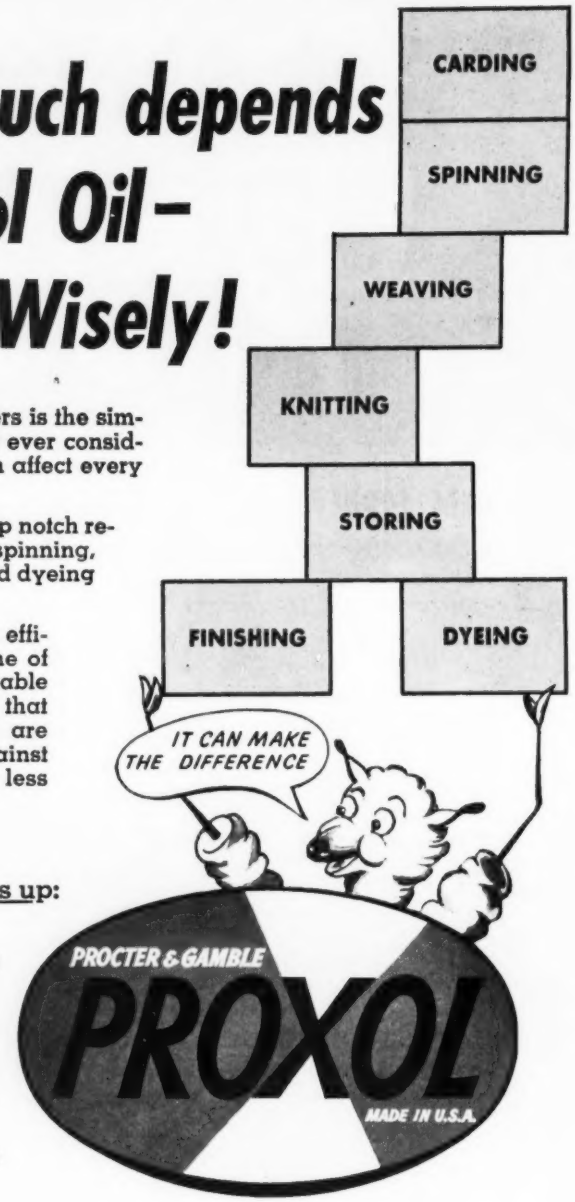
In mills where General Electric flywheel loom motors have been installed, reports indicate that a flywheel loom motor improves loom performance—loom fixers like the better "feel."

Ask your G-E sales engineer and your loom manufacturer about this new loom motor or, write for Bulletin GEA-5011B. Apparatus Dept., General Electric Co., Schenectady 5, N. Y.

TOTALLY ENCLOSED LOOM MOTORS

GENERAL ELECTRIC

When so much depends on your Wool Oil– Choose Wisely!



Application of a wool oil on wool fibers is the simplest thing in the world. But have you ever considered how such a simple operation can affect every succeeding processing step?

It can make the difference between top notch results and endless troubles in carding, spinning, weaving, knitting, storing, finishing and dyeing operations.

No wonder textile men agree that the efficient performance of a wool oil is one of the biggest factors in smooth, profitable woolen processing. And no wonder that textile men in increasing numbers are depending upon Proxol to guard against difficulties resulting from the use of less efficient products.

Where PROXOL efficiency shows up:

Self-emulsifying—
forms stable emulsions

Increased Carding Efficiency—
less waste, less static,
no corrosion

Increased Spinning Efficiency—
minimum fiber breakage . . .
fewer ends down

Stronger, more uniform yarns

Easy Scouring—regardless of storage period

No change in Storage—no heating up in storage, no odor or discoloration.

Proxol will raise your sights on wool oil efficiency. It will pay you to investigate its many advantages.

Procter & Gamble CINCINNATI, OHIO

Makers of OLATE, *the efficient, all-purpose textile soap.*

Little Ones are Big...

factors in your future. And good knitting can make them life long friends of your mill and your mill's customers. Let Torrington Needles—the needles of machine-controlled quality and uniformity—help you produce the kind of knitting that creates confidence in the merchandise that bears your name. The famous Red and Green box is your guide to dependable needle performance.

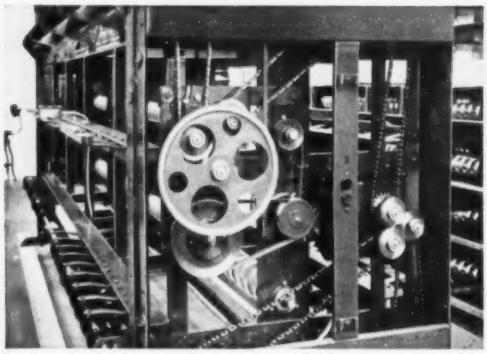
THE TORRINGTON COMPANY

TORRINGTON, CONN., U. S. A. *Established 1866*

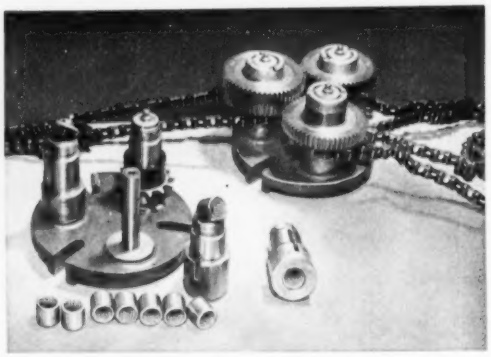
Branches: New York • Philadelphia • Chicago
Greensboro, N. C. • Boston • St. Louis • Toronto, Canada
Pacific Coast Representative: E. G. Paules, 1762 West Vernon Ave., Los Angeles 37, California. In England: Broadgate House, 7-10 Eldon Street, London E. C. 2.

There's a TORRINGTON Needle for every type of Knitting!

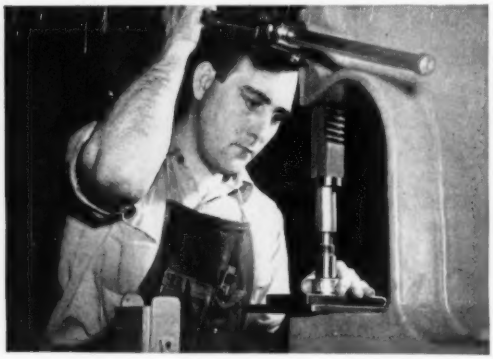
Torrington Needle Bearings simplify design and lubrication in Arnold Rubber Covering Machines



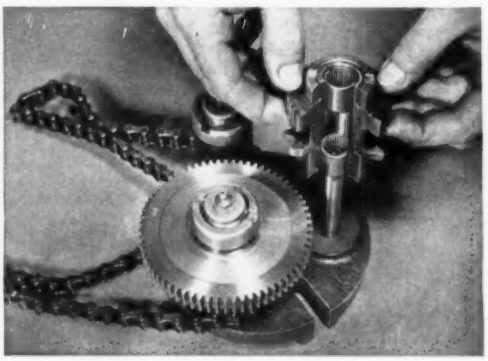
The H. H. Arnold Co., Inc., stresses simple design, rugged construction and easy maintenance on its machines, for covering rubber with cotton, rayon, or nylon yarn. The use of 28 Needle Bearings in the drive gears has helped satisfy these requirements.



Simplicity of the components of a gear assembly is apparent. Two Needle Bearings in each gear provide unusual stability. They reduce wear, keep gears in line. The turned-in lips of the outer shell retain oil, and reduce the frequency of lubrication.



Easy installation of Needle Bearings by a simple arbor press operation is another important advantage. The unit design facilitates handling. And because Needle Bearings take a firm press fit in the machined bore, they require no spacers or retainers.



Cutaway of the gear shows how entire unit is slipped over a hardened and ground shaft on which the Needle Bearings operate. Needle Bearings can be used in pinions of smaller diameter than is possible with any other type of anti-friction bearing.

This is only one example of the simplicity and efficiency secured in all types of textile machinery with compact, high-capacity Torrington Needle Bearings. Let our engineers help you adapt them to your equipment for better operation and longer service life. Write us today. THE TORRINGTON COMPANY, Torrington, Conn., or South Bend 21, Ind. District offices and distributors in principal cities of United States and Canada.

TORRINGTON *NEEDLE* **BEARINGS**

Needle • Spherical Roller • Tapered Roller Straight Roller • Ball • Needle Rollers

WHAT ARE YOU PAYING *for Condensate?* $ $ $ $

If your steam heated equipment is not supplied with hot, dry steam kept in intimate contact with the heated surface and free from air, you are paying for fuel that is being thrown away every hour.

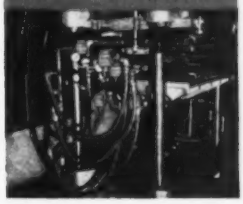
Worse yet, you are paying double in lost production and rejects, if your equipment is not properly trapped and vented.

AUTOS

$ LOST TIME

Heating up time was reduced from 3 hours to 1 by using Sarco No. 9 Thermostatic Traps on enamel ovens in a large auto body plant. This trap has large air venting capacity. Removes condensate at 10°F below steam temperature.

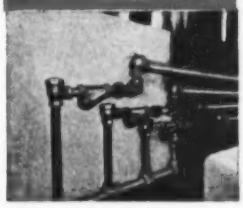
PLASTICS



$ REJECTED GOODS

With seven platens on this large plastics press, the weakest link (one cold section) made rejects frequent and without notice. Now seven Sarco Bucket Traps kick out the condensate and provide trouble-free production. This trap is ideal for releasing condensate as quickly as it forms—a must on plastics presses.

GREENHOUSE

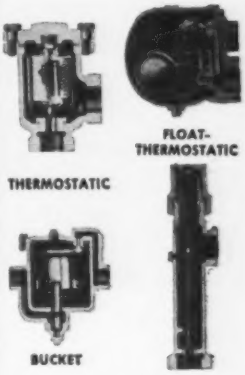


$ LOST FUEL

Most manufacturers don't know how much fuel they are losing due to inefficient trapping. In greenhouses, where fuel is a large part of the cost, monthly fuel bills tell the story fast. This greenhouse saved 30% of the fuel and 60% of the make up water by using Sarco Thermostatic traps on every line and every coil.

FOUR TYPES OF SARCO STEAM TRAPS TO CHOOSE FROM

Sarco makes all accepted types and can fit the trap to the job. Ask for trap selection chart No. 1600.



251

SARCO SAVES STEAM

SARCO COMPANY, INC.

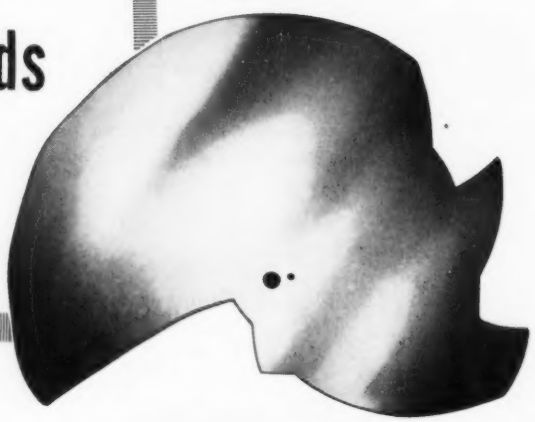
Represented in Principal Cities

Empire State Building, New York 1, N. Y.

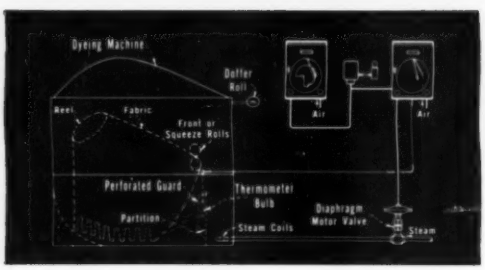
SARCO CANADA, LTD., TORONTO 8, ONTARIO

IMPROVES PRODUCT QUALITY AND OUTPUT

You *Cut* This Cam to Fit Your Piece Goods Dyeing Cycle



...with the BROWN Time-Temperature Control System



▲ *This is one of several Brown Piece Goods Dyeing Control Systems. Others are designed for less complex cycles and feature controlled rate of rise and adjustable holding period.*

Here's the utmost in simplicity . . . even for complex dyeing cycles . . . and with a minimum of equipment. Simply cut a soft aluminum cam to fit your cycle.

Outstanding advantages of this Brown Time-Temperature Control System for Piece Goods Dyeing are:—

Facilitates Shade Matching . . . by providing precise duplication of the prescribed cycle for each successive dyeing.

Saves Man-Hours . . . permits the operator to leave the machine—audible signal attracts his attention at end of cycle.

Saves Steam . . . keeps temperature on the line—no over-shooting.

Allows Unprecedented Flexibility . . . can be applied to nearly any conceivable dyeing cycle, merely by cutting a cam to obtain the desired results.

Call in your local Brown engineer for free consultation and advice . . . or write for a copy of Data Sheet #8.1-20.

MINNEAPOLIS-HONEYWELL REGULATOR CO.
BROWN INSTRUMENTS DIVISION
4509 Wayne Avenue, Philadelphia 44, Pa.

Offices in 73 principal cities of the United States, Canada and throughout the world

MINNEAPOLIS Honeywell *Advanced Instrumentation* FOR THE TEXTILE INDUSTRY BROWN INSTRUMENTS

"SHELL WOOL OILS lick 5 processing problems right off the reel!"

because:

1. They scour out easily and completely with a minimum use of soap.
2. They have quick, even spreading and penetration characteristics.
3. They reduce static to a minimum.
4. They will not turn rancid in use or in storage.
5. They are self-emulsifying in any concentration.

"...and SHELL WOOL OILS give you these extra qualities"

1. They *will not rust* or corrode card clothing or machine parts.
2. They *will not* glaze or attack leather card aprons or tapes.
3. They *will not load* the cards.
4. They *will not separate* in use or in storage.

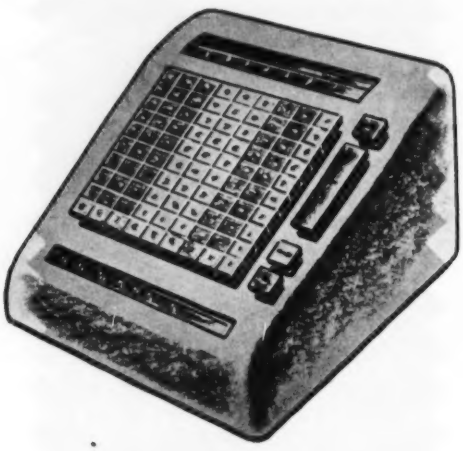
The Shell Lubrication Engineer will be glad to tell you all about the advantages of using Shell Textile Processing Oils. Samples for *your* own tests are available. Shell Oil Company, 50 West 50th Street, New York 20, N. Y., or 100 Bush Street, San Francisco 6, California.

SHELL

SHELL TEXTILE OILS

FOR YOUR INFOR M ATION

where to test a SIZING AGENT



STYMER for acetate warps

Stymer's Production Advantages
Stymer forms a tough, smooth film. It gives warp a superior finish over a wide range of humidities and temperatures. It reduces static electricity. It is non-gumming, non-thickening, non-mildewing. Stymer will not set or sour. Its detergent power helps remove dirt picked up during weaving.

You can test your chemicals on a calculating machine! Stymer, for example, subtracts costs and adds profits all along your production line:

You save because Stymer goes farther than natural sizes. A pound sizes more yards.

You save because Stymer doesn't gell. No more costly man hours cleaning pipes, valves and size boxes!

You save because Stymer won't set when cold, and can be left in size boxes overnight.

You save time and money cleaning and recovering cans.

You save in weaving because Stymer sized warps show little or no shedding, maintain yarn twist, and have fewer end breaks.

You save in operating time and expense, because Stymer washes out easily—sometimes cuts washing time in half.

With all these factors, no wonder more and more mills are coming out best in dollars, with Stymer. Your mill, too, can economize with Stymer size. For a sample, for full technical information, or for help with Stymer at your mill, just send the handy coupon.

Stymer: Reg. U. S. Pat. Off.

- MANY OF THE LARGEST FINISHERS
- WITH THE LARGEST RESEARCH STAFFS
- ARE USING MORE AND MORE CATALYST AC

Best compliment you can pay a product is to buy it, use it, and then *re-order* it. That's the kind of compliment we've been getting on Catalyst AC from some of the largest cotton and rayon finishers in the country. These are the mills with the research staffs and laboratories to make sure the product is right. These are the mills with the cost-control systems to make sure that their processes are *economical*. And these mills . . . with their highly qualified experts on textile processing chemicals . . . are proving Catalyst AC by their orders and re-orders.

Catalyst for Cost Cutting: Important operating economies can be made with Catalyst AC, especially by mills on shifts. That's because Catalyst AC reacts faster when you want it fast (in the curing oven) and slower when you want it slow (in the bath). It will not cause polymerization in the bath for 24 to 48 hours. The result is that you save refrigeration costs common with diammonium phosphate; and you get a product that's easier and cheaper to handle on overnight shutdowns.

Greater Resin Retention after Washing: Your melamine or urea finish stays on the fabric longer with Catalyst AC, as shown in the resin retention table on the left-hand page. Better washfastness in a cotton or rayon finish is a *consumer* advantage which is reflected quickly in *mill* sales.

FOR UREA AND MELAMINE FINISHES

Cotton and rayon mills find Catalyst AC effective on both melamine and urea finishes. If your mill uses urea finishes for crush resistance, fabric stability or shrinkage control on cottons or rayons, you'll find that Catalyst AC can lower your processing costs . . . raise your efficiency, and give you a higher-quality fabric.

Send the coupon for full information.

SERVING INDUSTRY . . .
WHICH SERVES MANKIND

MONSANTO
CHEMICALS — PLASTICS

MONSANTO CHEMICAL COMPANY
Textile Chemicals Dept., Desk TWT-23
Everett Station, Boston 49, Mass.

Please send full technical information on: ☐ *Catalyst* **A.C.** ☐ *Stymer*

Name _____ Title _____

Firm _____

Address _____

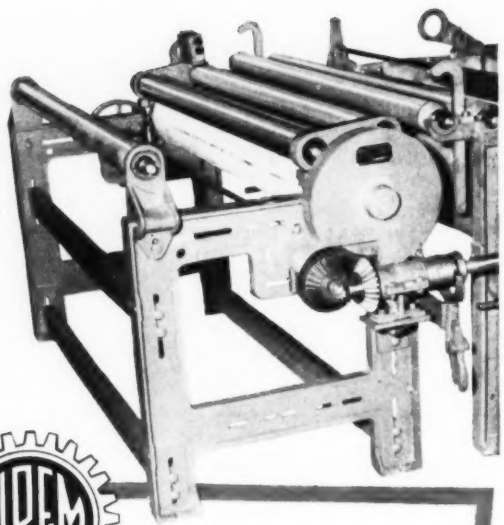
City _____ Zone _____ State _____

YOUR OLD SLASHER WILL PRODUCE

More yarn . . .

Better yarn with

S-T-R-E-T-C-H CONTROL



NEW UNIT IMPROVES QUALITY, SLASHER PERFORMANCE, RAISES WEAVING EFFICIENCY

The WPF&M Stretch Control Unit, added to your present Slashers, will improve your size operation and yarn quality. A positive-drive feed delivers yarn from creel to size box at a predetermined speed. Its change gear selection permits accurate control of stretch from zero to 4%.

Slasher speeds can be increased without yarn strain or tension on Slasher units.

Most important, Stretch Control enables you to deliver yarn of uniform strength and elasticity to your Weave Room for better weaving efficiency, better quality fabrics.

STRETCH CONTROL
offers many advantages

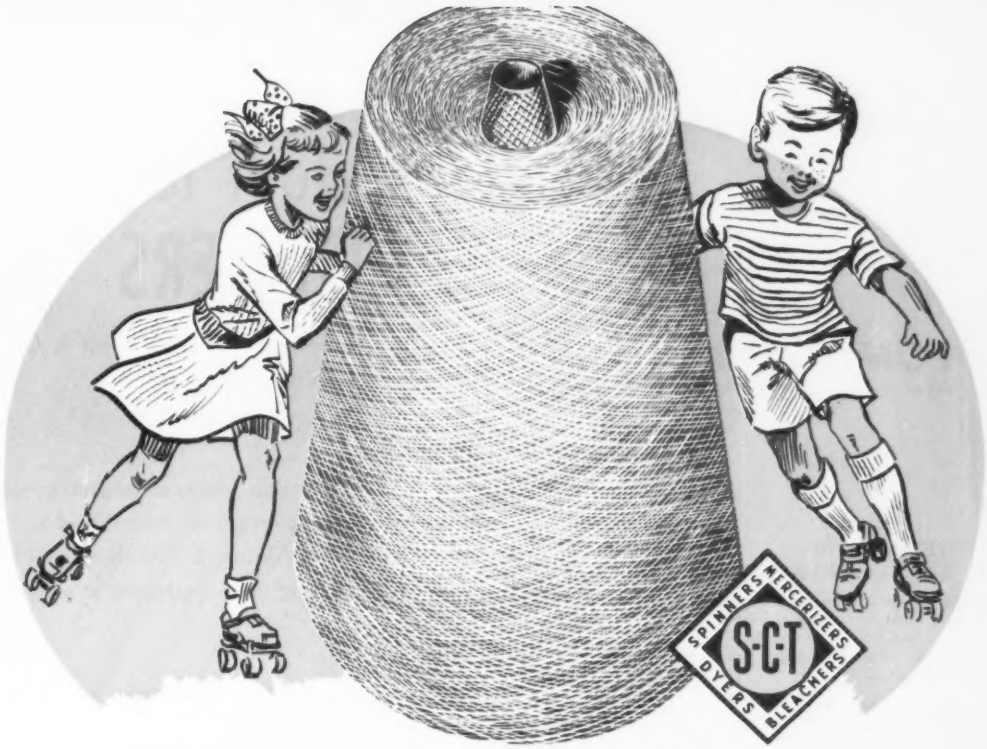
- ★ *Higher Slasher speeds*
- ★ *Positive feed eliminates slippage*
- ★ *Reduced Roll Blanket and Size Roll Wear*
- ★ *Predetermined Yarn Stretch*
- ★ *Improved Yarn Strength and Elasticity*
- ★ *Increased Weaving Efficiency*
- ★ *Better Fabric Feel and Quality*

For complete details on Stretch Control write . . .

Manufactured by

WEST POINT FOUNDRY & MACHINE CO.

WEST POINT, GEORGIA



Your knitting moves faster, better with

STANDARD Durene*

superior mercerized combed cotton yarn

And that's important today on two counts—Standard Durene helps keep your production costs down . . . helps you get your share of sales being created by the big national Durene campaign.

The secret of Standard Durene's more even knitting, greater production and salability is *our rigid control of all processes in our own plants from selected raw cotton to finished yarn.* Start specifying Standard Durene today as hundreds of Durene licensees are doing. Standard Durene's free-running smoothness, uniformity and beautiful luster pay off in low-cost production and sales. 10's to 120's ply, natural, bleached and dyed.

Made of Durene® multi-ply mercerized combed cotton yarn
4 WAYS BETTER than ordinary cotton yarns
EXTRA COMFORT ---more absorbent
EXTRA STRENGTH ---longer wear
EXTRA QUALITY ---lasting lustre
EXTRA SERVICE ---easy to wash

*Reg. U.S. Pat. Off.)

Standard-Coosa-Thatcher Co.

Chattanooga 1, Tennessee

Philadelphia 9, Pa. 123 S. Broad St. | New York 16, N.Y. 185 Madison Ave. | Chicago 54, Ill. Merchandise Mart | Greensboro, N. C. Guilford Building | Reading, Pa. 509 Walnut St. | Utica, N.Y. P.O. Box 105

Representatives in Central and South American Countries

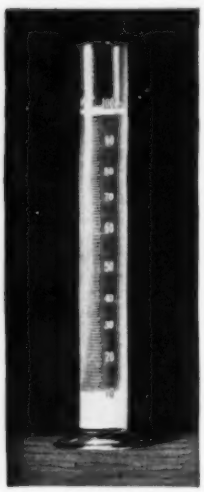
Announcing

A New Product for DYERS and PRINTERS

LOMAR PW the new dispersing agent developed by Jacques Wolf & Co., assures more efficient and economical processing.

TYPICAL OF THE DISPERSING ACTION OF LOMAR PW

The contents of these two graduates are identical, except for a small percentage of LOMAR PW. Note the continued even suspension and dispersion in the right hand graduate after standing ten times as long as the one at the left.



Blanc Fixe after 30 minutes — no dispersing agent

Blanc Fixe after 5 hours — plus LOMAR PW

• *In Dyeing*

Level shades and uniform absorption of dyestuffs by the fibres, depend largely upon an even dispersion of colors in the dyebath. The addition of a small amount of LOMAR PW in pasting up indanthrenes or acetates solves this problem.

• *In Printing*

When added to the printing paste, LOMAR gives finer particle suspension, improved flow and smoother consistency. By keeping the colors in suspension, LOMAR PW assures efficient, economical results.

• *In Backfilling*

In backfilling, LOMAR PW is added to the heavy backfill mixture of clay and starches to give uniform suspension of the clay, good flowing properties and more uniform results on the fabric.

For complete information on LOMAR PW, send today for your copy of Bulletin No. 21.

Plants and Warehouses

Plants: Passaic, Carlstadt, N. J.; Los Angeles, California

Warehouses: Providence, R. I.; Philadelphia, Pa.; Utica, N. Y.; Chicago, Ill.; Greenville, S. C.; Chattanooga, Knoxville, Tenn.

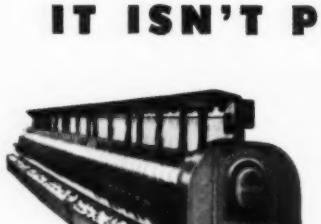
WOLF BRAND PRODUCTS

JACQUES WOLF & CO. *Chemicals* PASSAIC, N. J.

Franklin Process COLORS
SELL QUALITY FABRICS
PROVIDENCE • PHILADELPHIA • GREENVILLE • CHATTANOOGA
NEW YORK REPRESENTATIVE: 40 WORTH STREET

DROPPED PLY

IT ISN'T POSSIBLE ON THE

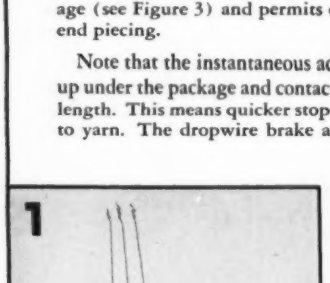


FOSTER MODEL 57 DOUBLER

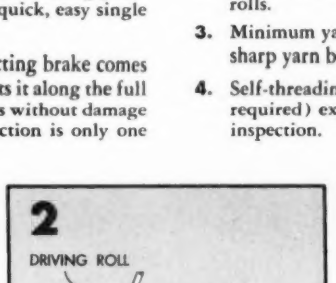
Each end drawn from bobbins or cones on the FOSTER MODEL 57 DOUBLER runs from the supply through a dropwire before reaching the doubling roll (see Figure 1). When supply from one cone or bobbin runs out, or when an end breaks, this dropwire falls and causes brake (see Figure 2) to stop package immediately. This prevents broken or run out end from reaching package (see Figure 3) and permits quick, easy single end piecing.

Note that the instantaneous acting brake comes up under the package and contacts it along the full length. This means quicker stops without damage to yarn. The dropwire brake action is only one feature of the Model 57. Here are some others:

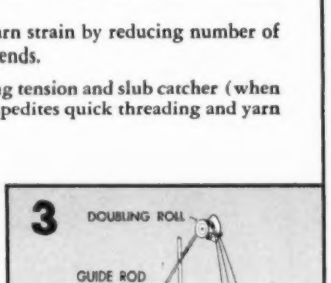
1. Machine may be equipped for one or two process doubling — direct from bobbins through slub catcher attachments, or from cones previously wound and inspected on FOSTER MODEL 102.
2. Guard prevents thread jumping off doubling rolls.
3. Minimum yarn strain by reducing number of sharp yarn bends.
4. Self-threading tension and slub catcher (when required) expedites quick threading and yarn inspection.



QUICK-ACTING STOP MOTION, with efficient brake, leaves sufficient yarn for single end piecing when supply runs out.



EFFICIENT BRAKE comes up under package and contacts the full length of tube. No adjustments, no parts to wear.



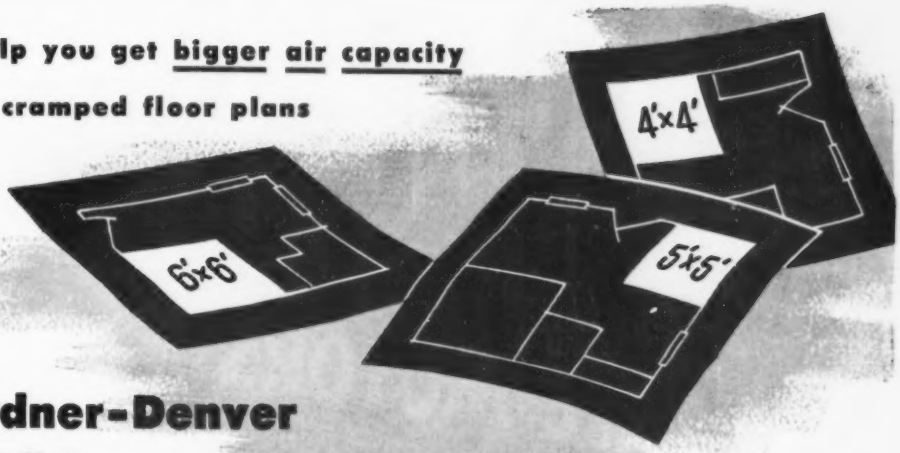
SHARP BENDS IN THREAD LINE ELIMINATED. Ends go from doubling roll to the Traverse Guide in back of package without any sharp bends. Minimum strain on yarn.

BULLETIN A-98 ON REQUEST

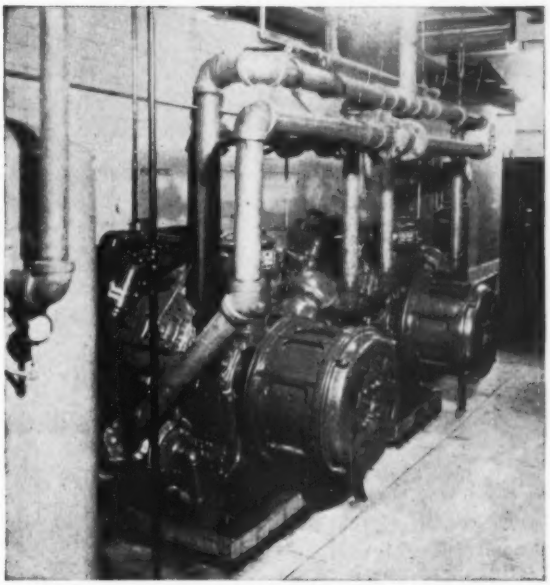
FOSTER MACHINE CO., Westfield, Mass., U.S.A.

SOUTHERN OFFICE: Johnston Building, Charlotte, North Carolina • CANADIAN REPRESENTATIVE: Ross Whitehead & Company, Limited, University Tower Building, 660 Ste. Catherine Street West, Montreal, Quebec • EUROPEAN REPRESENTATIVE: Mascharex Taylor Limited, Manchester, England

To help you get bigger air capacity from cramped floor plans



Gardner-Denver "WB" Compressors are made in 7 sizes!



Compact Gardner-Denver "WB" Two-Stage, Vertical Water-Cooled Compressors, with built-in motors.

Here's how you can have *greater air capacity* — even though floor plans are crowded! Install a Gardner-Denver "WB" — the vertical, two-stage compressor that's built in seven space-saving capacities from 142 to 686 cubic feet displacement per minute. The smallest size fits into a four-foot square — the largest requires only about six feet each way.

Compactly designed with integral motor and self-contained cooling system, the "WB" rates high in efficiency. Completely water-jacketed cylinders and heads, plus balanced construction — two low pressure cylinders for each high pressure cylinder — assure low power costs and an air supply you can always count on.

Other big "WB" advantages:

- ★ Duo-Plate "air-cushioned" valves — quiet, simple and durable.
- ★ Timken tapered roller main bearings.
- ★ Force-feed lubrication system.
- ★ Furnished with built-in motor — or with sheave for "V"-belt drive.

GARDNER-DENVER SINCE 1859

Gardner-Denver Company, Quincy, Illinois

In Canada: Gardner-Denver Company (Canada) Ltd., Toronto, Ontario

Atlanta, Ga.; Birmingham, Ala.; Boston, Mass.; Knoxville, Tenn.; Washington, D. C.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; New Orleans, La.

Heart of a Sweet-

ALLIS-CHALMERS TEXTILE MOTORS

Other Money-Saving AC Products for Textile Mills

TEXROPE V-BELT DRIVES

Most complete line of V-belt drive equipment backed by greatest engineering experience in the industry. New Vari-Pitch Automatic Sheave changes speed when motor is moved. One hand makes all changes without stopping machine. 100% speed range. 1½ to 40 hp.

DIELECTRIC HEATER FOR FAST DRYING

Allis-Chalmers dielectric heaters are setting new standards of speed and quality in rayon cake drying and twist setting. Heat any size or shape of textile package evenly from core to surface. Dries 1 pound cake of rayon in 30 minutes. Engineering and cost studies made without obligation.

For more information, write direct or use Reader Service post card.

Running Loom

Built to beat today's high maintenance costs... made to give you top output from both new and modernized equipment. Check these advantages:

REDUCED BEARING MAINTENANCE
Factory lubricated and sealed ball bearings get just the right amount of the right grease. Run without attention for years. No cost for lubricant and lubrication over long periods of operation.

SMOOTH RUNNING UNDER PULSATING LOAD
Motor is smooth running under constantly shifting loads of loom operation. Extra stiff cast iron frame resists distortion under strain and keeps bearings in perfect alignment.

EXTRA OVERLOAD CAPACITY FOR BREAKING-IN
Allis-Chalmers Loom Motors have the extra power needed for efficient operation during the stiff break-in period. You get full production immediately from looms equipped with Allis-Chalmers Loom Motors.

For Modernization or New Looms

When modernizing to increase production and to lower cost . . . or when buying new looms . . . specify Allis-Chalmers Loom Motors for that smooth "sweet running" sound that means efficiency and higher profits. In sizes and speeds to meet your requirements.

Quick-Clean Textile Motors

Especially designed for general textile mill use, these Allis-Chalmers motors have wide open air passages, smooth internal surfaces and efficient fans that blow out lint and dirt. They will not clog and overheat. Sealed bearings protect surroundings from grease, require no attention for years. Sizes to suit the usual requirements of spinning frames, twisters, etc.

A-2830

Texrope, Quick-Clean, and *Vari-Pitch* are Allis-Chalmers trademarks.

Ask for Free Bulletins and Engineering Information

Get complete information on these and other cost-saving A-C products for the textile industry. *Write for these free bulletins today.*

Allis-Chalmers Loom Motors 51B7111
Texrope Drives 20B6051
Vari-Pitch Automatic Sheave 20B7223
Dielectric Heater 15B6431
Power Generating Equipment, Transformers, Circuit Breakers, Power Distribution Equipment 25B6150

ALLIS-CHALMERS, 1056A SO. 70 ST.
MILWAUKEE, WIS.

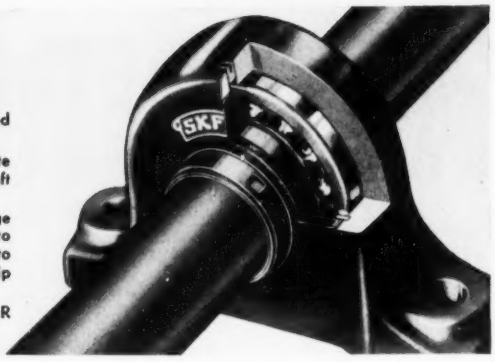
A-C ALLIS-CHALMERS

ALLIS-CHALMERS

Originator of the Multiple V-Belt Drive for the Textile Industry

The SKF SUA unit pillow block

its DESCRIPTION



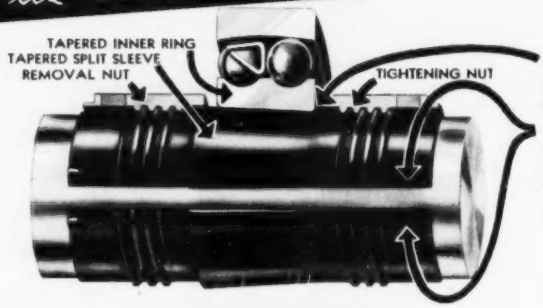
To maintain a *tight fit* between bearing and shaft, you need an SKF SUA unit pillow block.

It's completely assembled, lubricated and ready for immediate use. Available in "free" and "held" types . . . and in shaft sizes from 1 7/16" to 2 7/16".

Its SKF-exclusive Align-O-Seals prevent lubricant leakage and dirt intrusion. No exposed bearing . . . no lock screws to raise troublesome burrs on the shaft . . . for the nut is locked to the sleeve. Even though the shaft vibrates, the concentric grip will not loosen.

Designated as type SUA with ball bearings—and type SUAR with spherical roller bearings.

its CONSTRUCTION



TIGHT FIT results when the tightening nut pushes the tapered inner ring over the tapered split sleeve.

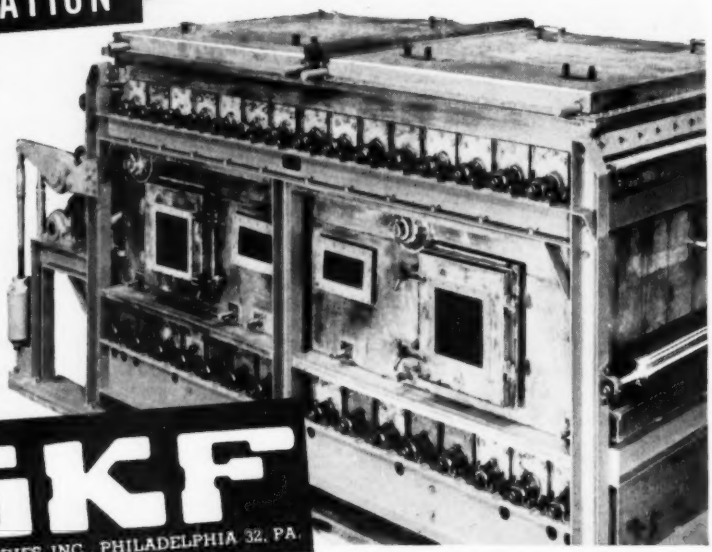
CONCENTRIC GRIP is firm and positive—as the split sleeve contracts and wraps around the shaft. Removal is accomplished by reversing the process—with tightening nut loosened, removal nut pushes inner ring off the sleeve.

its APPLICATION

THE GREENVILLE STEEL AND FOUNDRY COMPANY of Greenville, S. C., specified SKF SUA units and built a "tight fit between bearings and shafts" into this DuPont Steamer for piece goods drying.

64 SKF SUA 107 unit pillow blocks help maintain long-range dependability on this unit which operates at 150 yards per minute maximum. Our engineers can show you why the SKF SUA unit pillow block belongs in your specifications. Write today.

6600



SKF
INDUSTRIES INC., PHILADELPHIA 32, PA.

For more information, write direct or use Reader Service post card.

WHERE CAN YOU USE THESE

NEW. "DIFFERENT" RESIN FINISHES?

Is there a question in your mind as to whether the finishing material you are using — be it starch, gum or resin — is the best for your needs?

Is the finish "permanent"? Will it stand up under repeated washings? Will it mix well with softeners?

To get the best answer, may we suggest you look into a new line of thermo-plastic resin finishes recently announced by E. F. Houghton & Co.? They provide finishes ranging from a crisp, starchy feel to an extremely soft hand.

"RESONET" is the name. There are four products in the series, possessing these general advantages: durable . . . compatible with starches and most softeners . . . easy to apply . . . rapid in penetration . . . excellent for backfilling . . . will reduce lint on cottons . . . brighten colors.

The Houghton Man has a folder of samples finished with various types of Resonet. Ask him to show it to you, or write E. F. Houghton & Co., Philadelphia 33 or Charlotte 6, for full details.

HOUGHTON'S RESONET

PRECIPITRON® ADDS REAL VALUE TO YOUR VENTILATING SYSTEMS

Refrigeration Compressors

Axial Flow Fans

Heating and Cooling Coils

BY SAVINGS

PRECIPITRON, the electronic air cleaner, collects 90% of all airborne dust, dirt, and soot particles. Result:

Reduced Waste — Fewer "seconds" and rejects where products are harmed by dust and dirt.

Less Maintenance — Protects walls, ceilings, fixtures and machinery, keeps them cleaner; drastically cuts interior maintenance.

Better Production—Clean, fresh air means happier, more efficient employes.

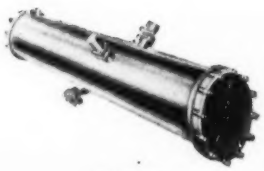
BY OPERATING ECONOMY

PRECIPITRON in a ventilating system means:

Low Operating Costs—The PRECIPITRON cell has a constant minimum resistance to air flow.

Inexpensive Maintenance—Simply wash out the collected dirt and apply adhesive to restore peak operating efficiency.

Everything that puts air to work for Every application



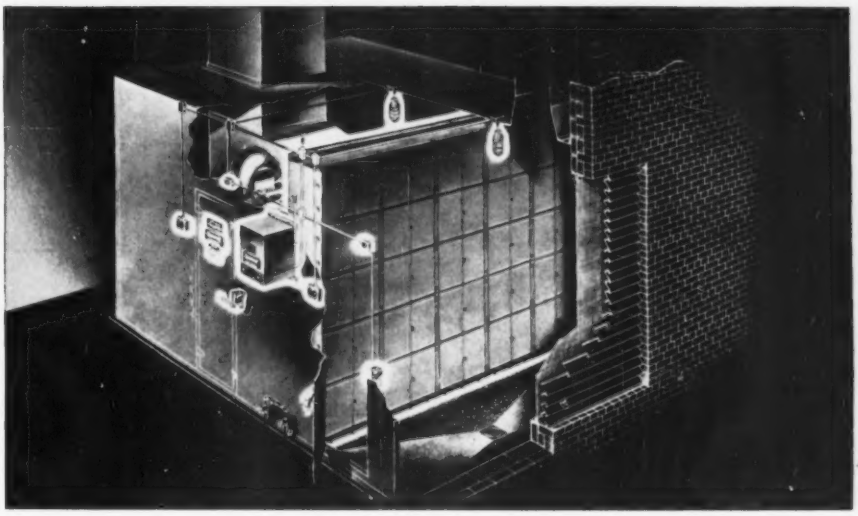
Refrigeration Condensers

Centrifugal Fans

Unit Air Conditioners

*Reg. U. S. Pat. Off. J-80157

For more information, write direct or use Reader Service post card.



Withstands Corrosion — All-aluminum construction has higher resistance to rust and corrosion without protective coatings.

BY QUALITY

The new, all-aluminum PRECIPITRON is more effective than ever.

More Compact — 25% more plate area per cell, a more compact installation that saves valuable space.

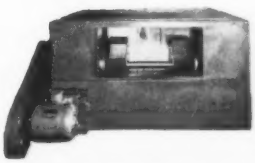
Easy to Install — Building block design makes it easy to assemble, install and maintain; gives greater flexibility of arrangement.

Lightweight — Heaviest piece weighs only 50 pounds, every part except power pack can be handled by one man without special equipment.

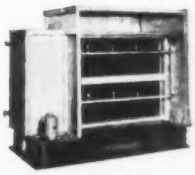
Investigate this new PRECIPITRON for savings and economical operation in your ventilating systems. In the final analysis, PRECIPITRON is not expensive to own or operate when the real value of *truly clean* ventilating air is properly considered. For information, call your nearest Westinghouse office, or write directly to Westinghouse Electric Corporation, Sturtevant Division, Hyde Park, Boston 36, Mass.

Westinghouse
Sturtevant Division

Unit Heaters



Air Handling Units



Surface Dehumidifiers

When You Modernize Your Mill Drives
CHECK THESE "UNI-PULL" ADVANTAGES

- There's just one belt . . . long-lived leather
- One, uniform pulley grip
- No separate tensions that can become uneven
- No part of the belt can loaf . . . it pulls as a unit
- Automatically maintains proper belt tension
- Easier on bearings
- Instantly adjusts for momentary, peak-loads
- Gives a smooth, fast start . . . fewer ends down

These advantages result in less maintenance and greater production than you can get from any other type of belt drive.

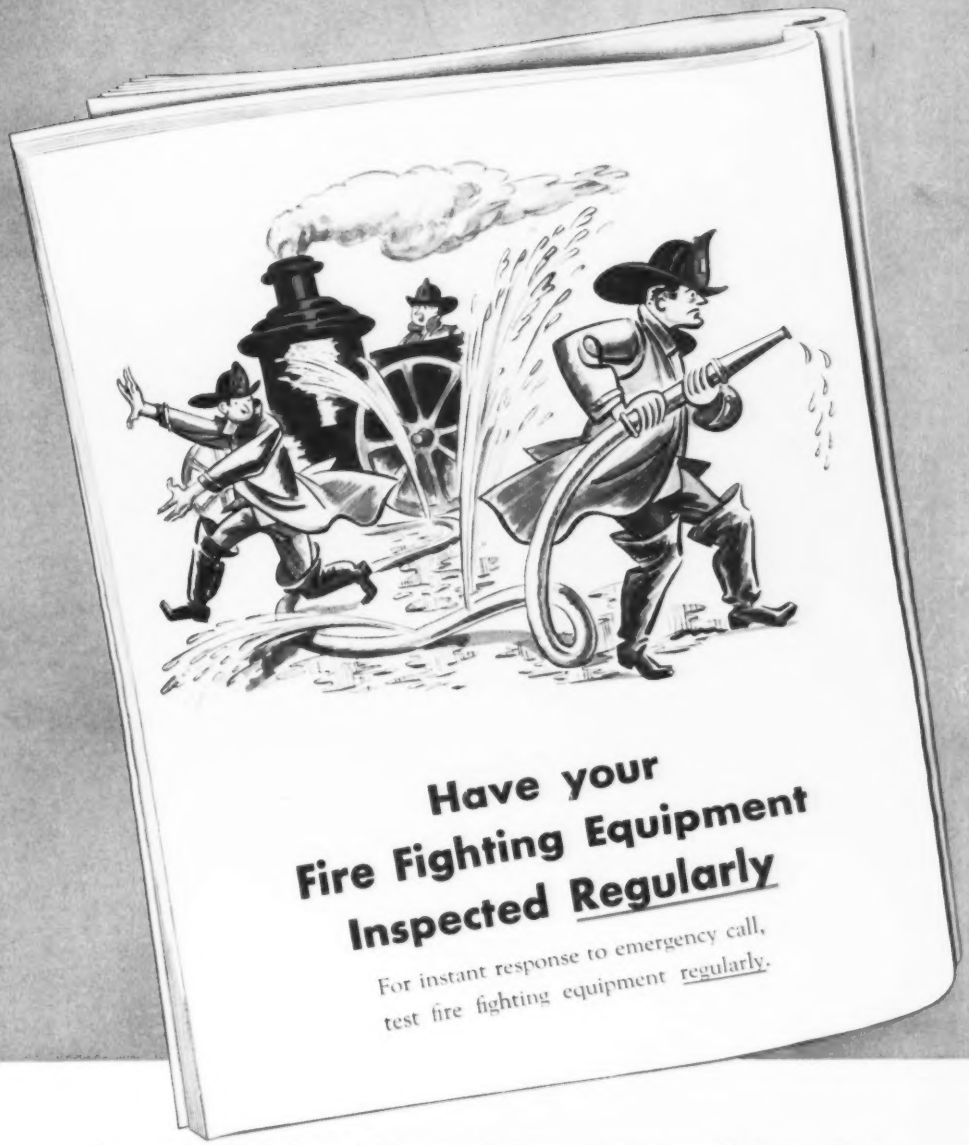
Ask your leather belting supplier how to use the Uni-pull drive in modernizing your mill.

AL-39

American LEATHER BELTING *Association*

Headquarters for Authentic Power Transmission Data

41 PARK ROW, NEW YORK 7, NEW YORK



Have your Fire Fighting Equipment Inspected Regularly

For instant response to emergency call, test fire fighting equipment regularly.

Have your Full-Fashioned Knitting Machines checked—regularly—to keep them at highest efficiency . . . Follow a regular program for reneedling and your needle bars are always in shape for better knitting . . . Follow a regular program for reconditioning and your plant is always at peak performance. We will be glad to discuss this matter of regularity as it applies to your mill operation.

TEXTILE MACHINE WORKS • READING, PA.

The "READING"
Full-Fashioned Knitting Machine

Amazing Flexibility

It's amazing, the flexibility that is built into every Textile Spring-Beard Needle. A special steel formula, superior tempering, and scientific controls—automatic and electronic—give Textile Needles the perfect resiliency required during every knitting operation.

Flexibility is but one of the many advantages brought about by Textile's quality controls. You get better performance in more even stitches and improved knitting results with precision-made Textile Spring-Beard Needles in your needle bar.

TEXTILE MACHINE WORKS, READING, PENNA

Textile

SPRING-BEARD NEEDLES

For Full Fashioned and Warp Knitting

How some Good Old Horse Sense Can Cut Your Painting Costs

Shrewd old "hoss traders" will tell you "Never buy a horse without looking at his mouth . . . yes sir, open it up and take a good look if you want to know his worth."

The same applies to paints. Many a smart dollar has been saved on a painting job by using a little horse sense. You do this by comparing a can of "Barreled Sunlight" with a can of any other paint you choose. Naturally, you pay no attention to the cans or the price tags on them. What pays off is what's in those cans. You have to *open* them . . . thin the contents according to directions . . . and then test on a wall where you can actually see the difference.

Compare the two . . . for yardage, solid coverage per coat and appearance after drying. Yes, *and because labor represents eighty per cent of the cost of painting,* see which paint goes on *faster.* With a fair, true test like this, it doesn't take much mathematics to figure that "Barreled Sunlight" will give you a better looking, longer lasting paint job *for less money* than any other paint you want to name. Talk it over with our representative. He'll call at your convenience. Write.

U. S. GUTTA PERCHA PAINT COMPANY
20-K Dudley Street, Providence, Rhode Island

Barreled Sunlight *Paints*

In whitest white or clean, clear, pleasing colors, there's a Barreled Sunlight Paint for every job

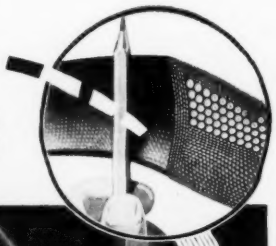
IT ALWAYS COSTS MORE NOT TO PAINT!

You can actually *feel* the sides of a belt *change shape* as the belt bends.

In Two Minutes You Can See Exactly How . . .

The Concave Side . . .

(U.S. Patent No. 1813698)



SAVES Your Transmission DOLLARS

Take *any* V-belt in your hands and bend it as it bends in going around a pulley. You will see that the top of the belt, being under *tension*, grows *narrower*. The body, under compression, *widens*. The sides *bulge out*.

This shape change—in a *straight-sided* V-belt—is shown in Figures 1 and 1-A, below.

Straight-Sided V-Belt

How Straight-Sided V-Belt Bulges in Sheave-Groove.

Now look at Figures 2 and 2-A. There you see how the *same shape change* affects the V-belt built with the precisely engineered *Concave Side* (U.S. Patent No. 1813698).

Gates Vulco Rope with Concave Side.

No Side Bulge. Precise Fit in Sheave Groove.

The top of the belt narrows, the body widens. But the sides *merely straighten—and* the new shape *exactly fits* the sheave groove!

Two savings result. (1) Uniform side-wall wear—*longer life!* (2) Full side-wall grip on the pulley carries heavier loads and *sudden load increases* without slipping; saves belts, saves *power!*

The Mark of SPECIALIZED Research

The Concave Side is MORE IMPORTANT NOW Than Ever Before

Because the sides of a V-Belt are what actually drive the pulley, it is clear that any increased load on the belt means a heavier load that must be transmitted to the pulley directly through the belt's sidewalls.

Now that Gates SPECIALIZED Research has made available to you SUPER Vulco Ropes—carrying fully 40% higher horsepower ratings—the life-prolonging Concave Side is naturally more important in conserving belt life today than ever before.

4910

GATES VULCO ROPE DRIVES

Engineering Offices and Jobber Stocks IN ALL INDUSTRIAL CENTERS of the U.S. and 71 Foreign Countries

THE GATES RUBBER COMPANY
DENVER, U.S.A.
The World's Largest Makers of V-Belts

PROMPT DELIVERY!

Ste-hed-co

ELECTRICAL AND MECHANICAL

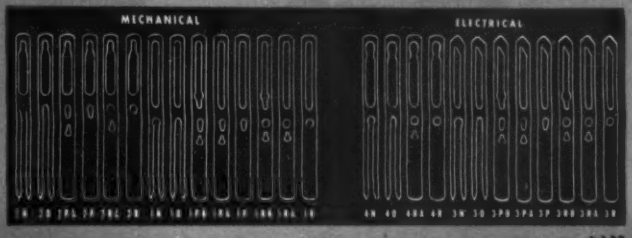
DROP WIRES

DROP WIRE worries can now be eliminated as a production problem. World famous "Ste-Hed-Co" Electrical and Mechanical Drop Wires are *again available* and ready in styles and quantities to meet your needs.

Their perfectly shaped and highly polished thread eye plus exacting high quality standards to which they are manufactured — in weights for all sizes of warp yarn — explains why Ste-Hed-Co Electrical and Mechanical Drop Wires are the first choice of leading mills everywhere.

Accurately processed in *all stainless steel* and high grade tempered and polished steel with galvanized, copper, or nickel plated finish, gives you a range of metals and finishes from which you select the one best suited to fit your particular needs.

Remember, *DELIVERY* will be *PROMPT*... large wire inventory on hand assures fast shipment. Try Ste-Hed-Co SERVICE . . . see why dependable Ste-Hed-Co products "Weave the World's Needs."



1-2-38

Ordering is simple too . . . furnish a sample or use the diagram — left — designating the style, width and thickness of wire and length you require . . . also tell us the metal finish you desire.

MANUFACTURERS OF —
Flat Steel Heddles
Loom Harness Frames
Loom Reeds
(Pitch Band and All Metal, Regular and Stainless Steel Wire)
Warp Preparation Equipment
Loom Harness Accessories
Electrode Rods
(Fibre and Plastic Insulation)
Southern Shuttles
(Tempered Dogwood, Persimmon and Fibre Covered)

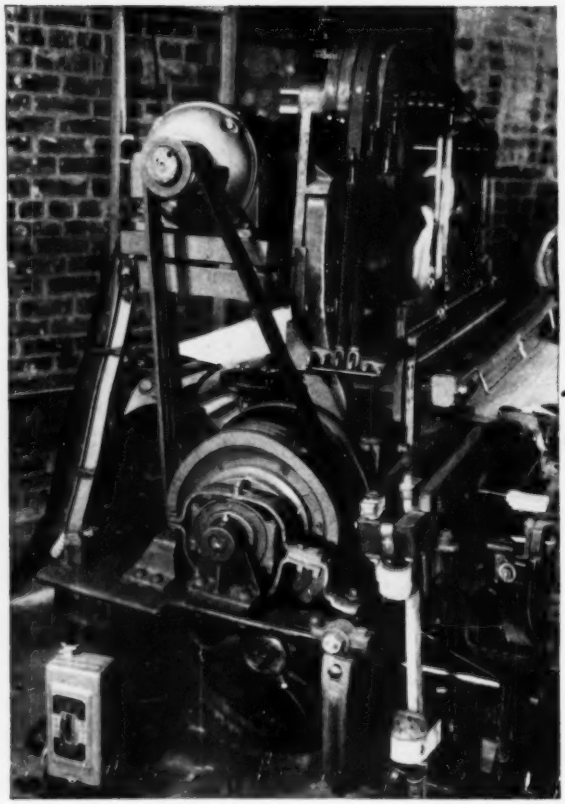
STEEL HEDDLE MFG. CO.

2100 W. Allegheny Ave., Philadelphia 32, Pa.

SOUTHERN SHUTTLES DIVISION Paris, Greenville, S. C.

Other Plants and Branch Offices

Atlanta, Ga. • Greensboro, N. C. • Providence, R. I. • Montreal, Can.



NOW!

-SAVE POWER!
-REDUCE MAINTENANCE!
-ELIMINATE GREASE DRIP!

For vastly improved performance, modernize your looms with Dodge-Timken Bearings and the Dodge Loom Drive. For complete details consult the Dodge Transmissioneer nearest you. Write us for his name.

DODGE MANUFACTURING CORPORATION
MISHAWAKA • INDIANA

IT'S ANOTHER DODGE "FIRST"

AGAIN Dodge opens the door to improved production with important savings in cost—this time in the textile industry. Loom applications of Dodge-Timken Bearings save power, reduce maintenance by 50%, cut lubrication cost 90%, reduce vibration, eliminate crank shaft wear, stop grease drip and oil-spot spoilage.

Investigate! Learn what great results are being accomplished with the installation of these loom bearings. Also ask for details on modernizing your loom drives with the famous Rolling Grip Clutch—another Dodge "first" that contributes to better loom performance.

Dodge-Timken Bearings and the Dodge Rolling Grip Clutch are the big news in the textile field today. Use them to improve *your* operation!

DODGE...FIRST IN POWER TRANSMISSION MACHINERY!

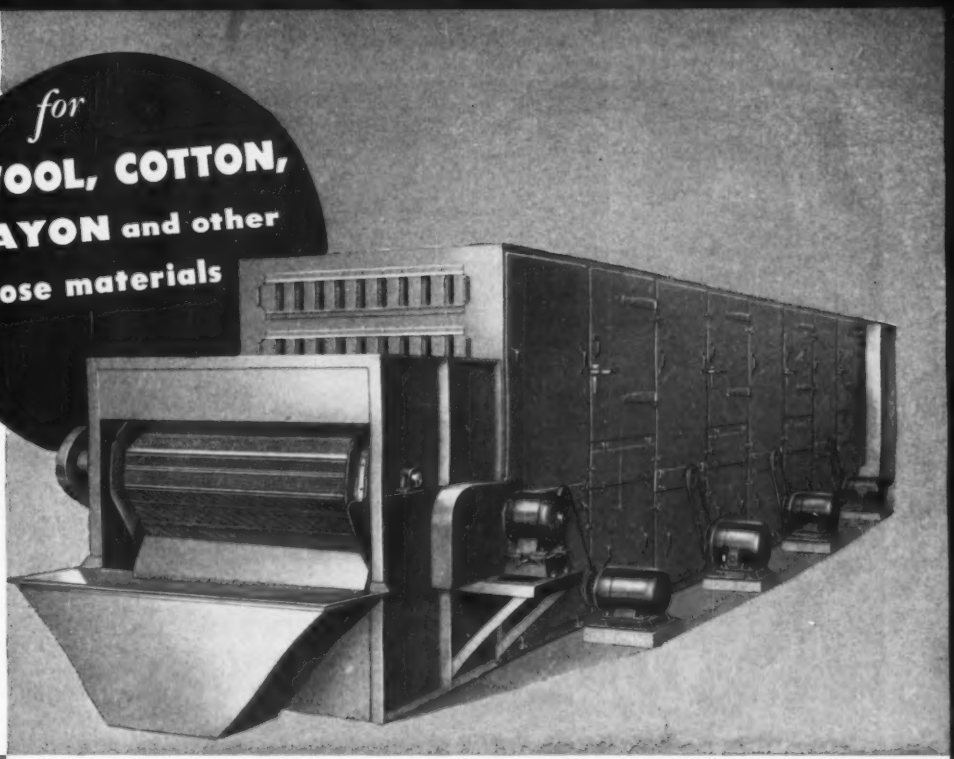
Famous Dodge-Timken Bearings—housed, sealed, ready to install and especially adapted to loom operation. Top row: loomside crank shaft bearings, left and right hand, and outboard bearing. Bottom row: cam shaft bearings, left and right hand. Take full radial and thrust loads; maintain shaft centers permanently.

DODGE
of Mishawaka, Ind.

FOR FULL DETAILS: Dodge Transmissioneers are located in all textile centers. Write us for the name of the one nearest you.

for

WOOL, COTTON, RAYON and other loose materials



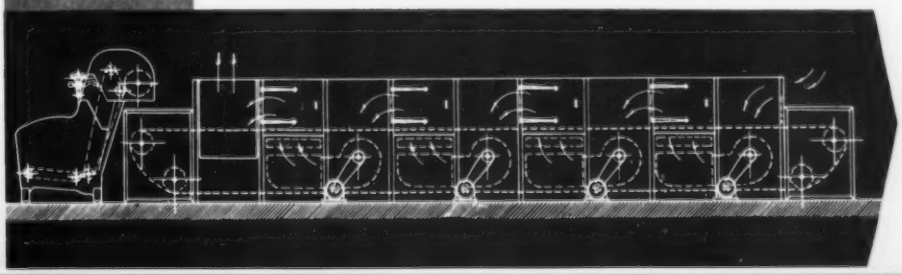
SARGENT'S *CONTRA-FLOW* Single Apron Dryer

Sargent presents a NEW, fast, automatic, single apron dryer employing the counter-air-flow heating principle. This system provides the most rapid and economical textile drying ever developed for wool, cotton, rayon and other synthetic and loose materials.

The material to be dried and the air which dries it *enter* the dryer at *opposite ends*, and *travel* through in *opposite directions*. The fresh air enters the dryer at room temperature at the delivery end. Passing upward then downward through the material, the air is constantly reheated and gains in temperature and moisture content as it travels toward the feed end. Wet material traveling through the dryer is subjected first to hot, wet air, then progressively to drier, cooler air. In the final stage, cool room temperature air passes through the hot, dry material and is thus delivered from the dryer in perfect condition and *without carrying away heat.* For complete information please write for Bulletin No. 183.

C. G. SARGENT'S SONS CORPORATION

Graniteville, Massachusetts, U. S. A.



Schematic diagram of the SARGENT CONTRA-FLOW SINGLE APRON DRYER showing direction of travel of air through fans and heating elements. Material travels in opposite direction.

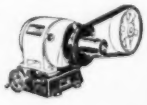
REEVES reduces waste of Time! Material! Manpower!

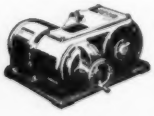
This hydraulic quetsch provides selection of correct pressures for the new resin, TBL and similar finishes for every type of fabric. By means of the REEVES Motodrive with which the machine is equipped, an operator can obtain instantly any desired speed—from 40 to 120 yards per minute—to compensate for variations in the weight and fibre of cloth handled. The quetsch is a product of John Verduin Machine Corp., Paterson, N.J.

THE THREE BASIC REEVES SPEED CONTROL UNITS

VARIABLE SPEED TRANSMISSION for providing infinite, accurate speed flexibility over a wide range—2:1 to 16:1. Sizes—fractional to 87 hp.

VARI-SPEED MOTOR PULLEY provides an instantly variable speed drive within 4:1 ratio for any constant speed motor. Sizes to 10 hp.





MOTODRIVE combines motor, speed varying mechanism and reduction gears in single compact unit. Speed variations 2:1 to 6:1 inclusive. Sizes to 20 hp.

● Install REEVES Variable Speed Drives on your machines and you'll see results, not next month, not next week—but *immediately.* REEVES Speed Control *instantly* and *accurately* compensates for every change in texture, weight, temperature, moisture and other variable factors . . . provides exactly the right speed for every operation and every operator, *under every changing condition* . . . cuts your costs by reducing waste of time, material and manpower.

Applicable to beamers, warpers, slashers, dry cans, mangles, dryers, nappers, range finishers and many other textile machines, the three basic REEVES Speed Control units are available in a wide range of designs, sizes, capacities and speed ratios—with manual, push-button or completely automatic control.

A REEVES engineer thoroughly familiar with textile mill operations will be glad to work with you and recommend the units which best suit your particular needs. Write today, and ask for a free copy of the new, 132-page general catalog W24-3N.

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

ACCURATE • VARIABLE

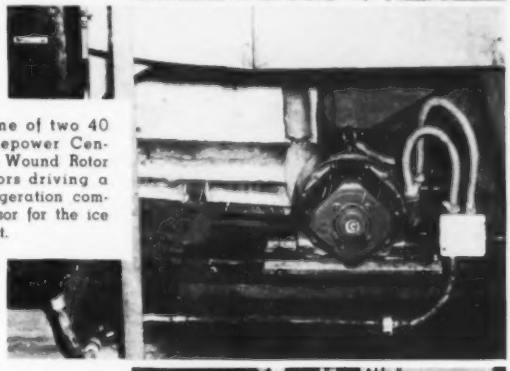
Reeves Speed Control

GIVES THE RIGHT SPEED FOR EVERY JOB!

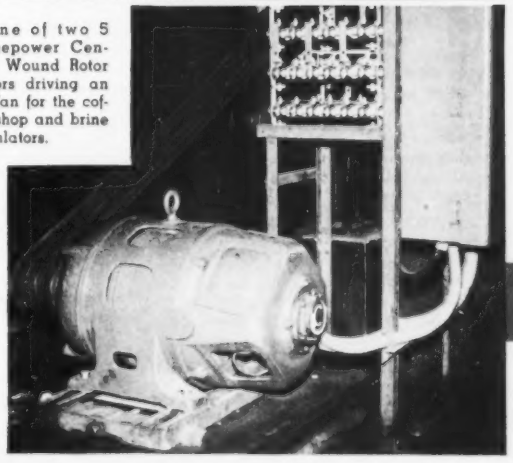
Century Wound Rotor Motors

Meet Wide Variety of Conditions for More Effective Air Conditioning Operation

• Large hotel using Century Wound Rotor Motors on air conditioning equipment.



• One of two 40 horsepower Century Wound Rotor Motors driving a refrigeration compressor for the ice plant.



• One of two 5 horsepower Century Wound Rotor Motors driving an air fan for the coffee shop and brine circulators.

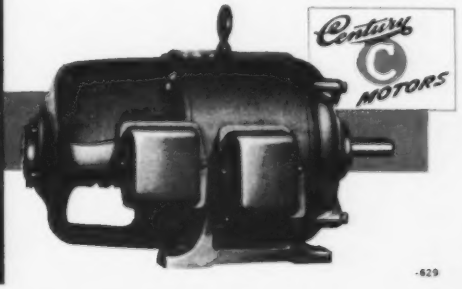
Century Type SR Wound Rotor Motors are ideal for applications requiring high starting torque or low starting current, or to meet conditions where varying speed is required or desirable.

Century builds a complete line of electric motors in a wide range of types and kinds—in sizes from 1/6 to 400 horsepower for all popular electric power applications.

Specify Century for all your electric power requirements.

Popular types and standard ratings are generally available from factory and branch office stocks.

CENTURY ELECTRIC CO.
1806 Pine St. • St. Louis 3, Missouri
Offices and Stock Points in Principal Cities



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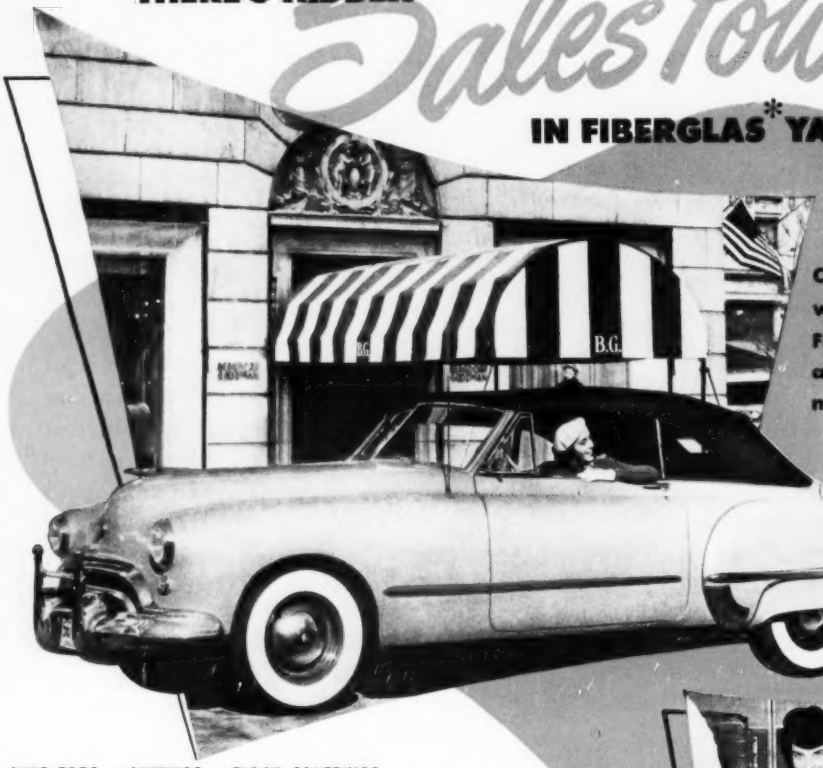
THERE'S HIDDEN *Sales Power*

IN FIBERGLAS* YARNS!



Coated fabrics woven of Fiberglas yarns are building new markets!

AUTO TOPS... AWNINGS... FLOOR COVERINGS... these are but a few of the many coated fabrics woven of Fiberglas yarns. They combine the last word in research and engineering to give selling advantages never before possible. Fiberglas yarns give fabrics tremendous tensile strength and dimensional stability. Flame-proof, climate-proof, mildew-proof, they work readily on standard machines into products that are winning important places for themselves in the industry.

FIBERGLAS YARNS CAN BUILD NEW MARKET OPPORTUNITIES FOR YOU!

Fabric development men, converters and mills have solved many problems, achieved many successes by using Fiberglas yarns.

Examples of fertile fields that are producing textile profits—waterproof membrane fabrics, fabrics for laminates, electrical insulation, industrial tapes, gaskets, conveyor belts, filter cloths, steam hose, convertible auto tops, fender welting, awnings, curtains, and upholstery.

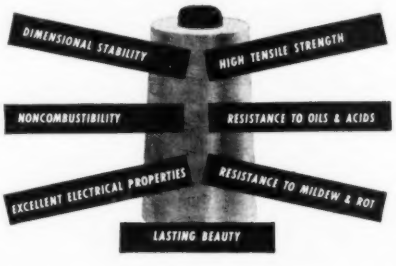
To solve your problems on new constructions or improved products, write or phone today for Fiberglas technical representative. Our research experts are at your service—either in your mills or in our textile laboratory. Owens-Corning Fiberglas Corporation, Textile Products Division, 16 East 56th Street, New York 22, N. Y.

OWENS-CORNING FIBERGLAS CORPORATION MAKES ONLY THE FIBERGLAS YARNS—NOT THE FINISHED PRODUCTS.

OWENS-CORNING FIBERGLAS *Yarns*

*REG. U.S. PAT. OFF. OWENS-CORNING FIBERGLAS CORP. TRADE-MARK REG. U.S. PAT. OFF.

Aircraft-Railroad Floor covering of vinyl-coated fabric woven of Fiberglas yarns.



Principal Capital Outlay Is for MODERNIZATION

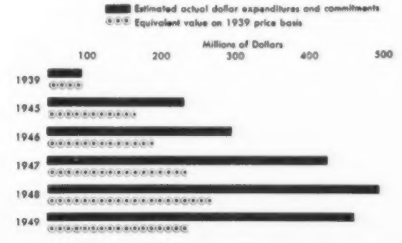
HIGHLIGHTS: *Mill expenditures and commitments at $455,120,000 for 1949 hit point midway between 1947 and 1948—Emphasis on cost cutting—Cotton and rayon branches combined gain 29% over their total expenditures and commitments of a year ago—Woolen, knitting, dyeing, and finishing plants also included in survey.*

By RICHARD C. SCOTT
Assistant Editor, TEXTILE WORLD

THE POST-WAR RISE in capital expenditures and commitments by textile mills reached its highest point last year and started to level off on a lower basis in 1949, as was predicted a year ago. The verifying of this fact is an outstanding result of this year's annual TEXTILE WORLD capital-activity survey.

The leveling off of plant improvements and commitments for improve-

Total Textile Industry Expenditures and Commitments



Index Numbers on Textile Machinery And Industrial Building Costs

(1926 = 100)

Textile Machinery

1939	83.7
1945	101.8
1946	122.1
1947	146.6
1948	157.4
1949	159.0

Mill Buildings

1939	99
1945	133
1946	155
1947	182
1948	199
1949	196

(Compiled by Marshall & Stevens, Chicago, Ill.)

ments was by no means drastic, according to postwar standards. From a high-water mark of $505,000,000 a year ago, this year's total is $455,120,000, a drop of approximately 10%. A slackening off of $50,000,000 cannot be considered too serious a business indicator in light of the return this year to normal ebb and flow of demand—the first year in which supply and demand have been in free play since the war.

As in previous years, the figures presented in this section are based on reports of mill expenditures and commitments appearing during the year in the columns of TEXTILE WORLD's "News About Mills" department. As TEXTILE WORLD well knows, it does not succeed in getting quotations on dollar expenditures on all of its mill-news items. A certain percentage of manufacturers is loath to release dollars-and-cents expenditure figures at any time, especially some of those in one or more of the more highly competitive branches of the industry. We can only trust our reporting is as efficient one year as it was the previous year or years, and figure the percentage of more reticent organizations is about the same each year. In any event, the over-all figures given are especially useful for comparative purposes.

CHARTS. Besides the 1949 figures (actual for first 10 months and prorated for November and December), this survey includes graphs and charts on equivalent-dollar values, machinery and building costs, and mill-expenditures-and-commitments distribution. If it is remembered that the dollar today is worth something like 60¢ in terms of the 1939 dollar, the reason for the double bars in the industry expenditures-and-commitment graph will be evident. A series of index numbers based on comparative textile building and machinery costs worked up annually by Marshall & Stevens, valuation engineers, Chicago, Ill., serves as the basis for the length of the 1949-dollar bars underneath the 1939-dollar bars. This basis, then, serves as an index of the actual number of physical units purchased in the various years. Marshall & Stevens indexes on actual textile machinery and building costs themselves are also given.

In 1949, the dollar value of textile-mill expenditures and commitments came to $455,120,000. In 1948, it was $505,000,000; in 1947, $414,589,000; in 1946, $298,500,000; in 1945, $212,000,000; and in 1939, $87,670,000. The same yearly figures, expressed in 1939-dollar values, were: 1949, $232,000,000; 1948, $263,000,000; 1947, $230,320,000; 1946, $196,700,000; 1945, $165,000,000; and in 1939, the same figure of $87,670,000. Accordingly, 1949 expenditures and commitments were actually about 12% less than those of 1948, in unit comparison of what could be obtained for the same kind of money expended. Similarly, the textile-industry unit rate of growth in 1949 was only about two and a half times higher than that of 1939, instead of the more than fivefold increase indicated by the actual dollar totals.

TYPES OF DATA. Expenditures and commitments, again as in former years, take in outlays for renovation, expansion, and modernization, as well as for new plants. Included are costs of new buildings, refurbishing of old ones, new and used textile machinery from outside sources, service equipment, air-conditioning, humidification, materials handling, lighting, power, water and waste treatment, employee welfare, mill-village extensions, and engineering fees. Left out of consideration are reorganizations of companies, buying out of companies, and purchases of regular replacement materials and maintenance of equipment or supplies—such as belts, bobbins, shuttles, or card clothing for existing machinery.

Expenditures currently are for improving plant operations with but very little for expansion. There are some expenditures for facilities to produce new products, but most are for keeping plants competitive.

(Continued on page 238)

▶ COMPARATIVE SURVEYS ◀

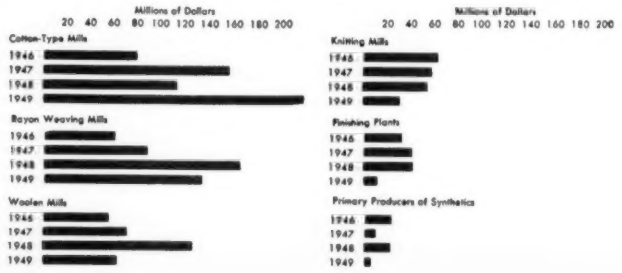
TEXTILE WORLD 1947 Expenditure-and-Commitments Figures 24% Above 1947 Expenditures as Reported by Census of Manufactures

TEXTILE WORLD has compared its 1947 figures on new textile-plant and equipment expenditures and commitments with the 1947 Census of Manufactures figures on textile-plant expenditures, and has found that its over-all total averages 24% more than that of the Census of Manufactures. The TEXTILE WORLD figure was $414,589,000 in 1947, while the recently released 1947 Census of Manufactures figure for primary producers was $333,189,000.

While TEXTILE WORLD does not maintain that its yearly figures are in any way final or infallible, it has since the war been maintaining that its figures, especially when plotted in tabular or graphic form, are indicative of expansion or contraction trends in the industry. This over-all corroboration of our two-year-old figures by latest government statistics is therefore deemed worthy of special note.

The 24% differential between Census of Manufactures 1947 textile figures and those of TEXTILE WORLD for 1947 is probably the result of the limiting of government figures to actual expenditures for new plants and equipment. TEXTILE WORLD has always included future commitments in its figures, as well as actual expenditures, as our readers know.

Distribution by Type of Mill of Improvement Expenditures And Commitments Made During 1946, 1947, 1948, 1949



20 Ways to Reduce Costs in Any Textile Mill

INSTITUTE:

1. Cost controls
2. Plant expansion
3. Hours and inventory control
4. Improved techniques
5. Incentive system
6. Increased productivity per unit
7. Plant modernization
8. New personnel
9. Office-efficiency system
10. Production planning
11. Quality control
12. Reduction of labor costs without cutting wage rate
13. Relocation of machines or departments
14. Research
15. Standardization of methods and end-products
16. Substitution of materials
17. Suggestion systems
18. Teamwork with employees on democratic basis
19. Time and motion studies
20. Weeding out of duplication, inefficiencies, and waste

Adapted from recent NICB report

Mills **SPEND MONEY** To Save on Operating Costs

HIGHLIGHTS: *All types of mills investing in many kinds of improved equipment—Costs thereby reduced from opening to finishing—From 10% to 75% savings gained by newer methods—Cotton, woolen, synthetic, and finishing mills participate in industrywide roundup.*

MILLS ARE CONTINUING the post-war procedure of installing improved machinery wherever they can to reduce costs of manufacture. The trend to increased mechanization and automatic control of processing continues apace.

Results here given of a recent TEXTILE WORLD survey show that definite savings are being effected by these new installations, from opening room to finishing plant, in all types of mills. From a low of 10% cost saving on a changeover to beam and package dyeing, varying percentages of cost saving were noted by mills up to a high of 75% on the installation of a new cotton-blending and picker-room layout.

Read through the cases listed for ideas you can supply to your mill.

The following outline gives an idea of what some mills are doing right now to reduce their costs, mainly through increased output by means of new and improved equipment.

COTTON MILLS

Opening and Picking

". . . putting in a new blending and picking system, where one man can take the place of 4. Cost reduction is 75%."

". . . have a new one-process picker. Have not had a chance yet to figure exactly how much improvement costwise."

Carding

". . . installation of continuous card strippers. Cost reduction is 15%."

Roving

". . . have installed roving-frame stop motion, on which an article appeared in the April issue of TEXTILE WORLD. Cost reduction is 30%."

Spinning

". . . replacing old 2⅛-in. rings with large-package 2½-in. rings."

". . . changed from band drive to Meadows tape drive. Increased production by 12% at no extra cost."

". . . using a spindle adapter that pays for itself in three years."

Winding

". . . greatest cost reduction in automatic winding, saving us up to 35%."

". . . installation of Abbott automatic quillers. Cost reduction is 50%."

". . . high-speed winding and automatic warping save us about 20% on our costs."

Dyeing

". . . new package dyeing and drying equipment. Cost is reduced by approximately 20%."

". . . changing from raw stock and chain dyeing to beam and package dyeing has improved our cost picture by 10%."

General

". . . increased labor efficiency has reduced our cost by 10%."

". . . more production per worker. Cost saving is about 10%."

WOOLEN MILLS

Carding

". . . Peralta rolls. Can't figure cost reduction, as improvement followed in all our departments after carding."

SYNTHETIC MILLS

Winding

". . . the installation of Atwood No. 10-B machines for putting three turns of twist from zero cheeses for warping. Cost reduction is 60%."

Engineering

". . . reduction of building-investment cost through engineering research designed to get more production from building and equipment constructed at a low building index. Cost reduction is a fraction of a cent per yard."

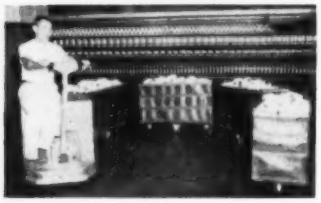
Dyeing

". . . package-dyeing equipment, eliminating high winding cost on fine sizes of nylon machine twist."

COST-CUTTING BRIEFS

Spinning and Preparatory Processes

Cotton—Synthetics



ROVING TRUCKS are hauled from spinning room to warping department by Yale Work-saver tractor at Winnsboro, S. C., plant, U. S. Rubber Co. Use of the tractor has permitted more than doubling the amount handled per trip. Special couplings are used to help trucks make right-angle turns.

► One mill, spinning high-quality combed Egyptian-cotton yarn of medium and fine counts, increased spinner's assignments 25% by an installation of Pneumafil vacuum waste-collection system. In addition, ends down dropped 30%, spinning doublings were eliminated, the value of waste from broken ends was increased by more than 30¢. per lb. The mill management indicated that the savings from the Pneumafil system would pay for the installation within two years.

► Definite savings in labor costs were made at Belding Heminway Corticelli, Putnam, Conn., through the installation of 12 reelers made by Fidelity Machine Co., Inc. With the previous reelers, it was necessary to have men operators who, in addition to operating the reel also had to remove the heavy fly when the skeins were wound and take them to stands where girls were employed for lacing. After the installation of the Fidelity units, the mill changed to all women operators who now do the entire operation of reeling, lacing, removal of the skeins, and bundling.

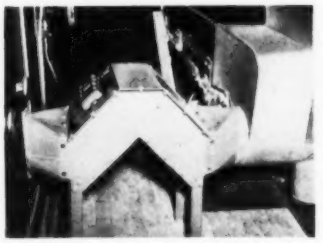
Belding Heminway Corticelli has also been able to get increased production due to this changeover from the old type reel and has also saved considerable floor space. The twelve Fidelity reelers actually replaced 36 of the old type reels, the mill stated. All work is now done without any special attachments such as were necessary on some of the older type reels. The mill manager says that waste has been reduced and that the mill has better operating conditions than with the old-type reels.

The mill manager also states that the maintenance or upkeep of the Fidelity equipment is considerably less than with the old-type reel, and that operators actually have a lighter work load and better working conditions.

► Henderson Cotton Mills and Harriett Cotton Mills, Henderson, N. C., installed Oil Rite vibrating-rod oilers with Lucite reservoirs on cotton cards. Savings resulted from constant supply without oil waste, elimination of two-stage method of refill, absence of glass breakage, and non-spilling of oil.

► Mt. Vernon-Woodbery Mills, Tallassee, Ala., equipped 524 spinning frames and twisters with the Bijur system of head-end lubrication. The centralized lubrication system saved 33 to 50% of the oil formerly used in manual lubrication on 419 of these frames. Savings in man-hour time and in down time amount weekly to 97%. The figures given do not include time required for filling the centralized oil reservoir (once each 42 days) nor for filling oil cups under the manual system (at least once every 42 days). Broken-tube replacement in the centralized system constitutes the total maintenance of the system.

► Firestone Textiles, New Bedford, Mass., has equipped 20 Whitin twisters with a Lincoln Centromatic centralized lubrication system for spinning rings. Each machine has 132 lubrication points to which grease is supplied at 20-min. intervals from a drum equipped with an air-operated, time-clock-controlled pump. Savings in time of operators and machines, as well as materials and power, have resulted.

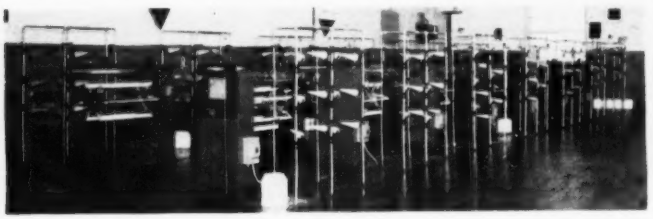


WOODSIDE MILLS, Greenville, S. C., eliminated vertical-opener fires costing $2,500 annually in property alone by installing two Eriez non-electric permanent magnetic humps in the opening room at a cost of approximately $500. Down time and employee time saved, added to material and property savings, allowed the two magnetic humps to pay for themselves in less than three months.

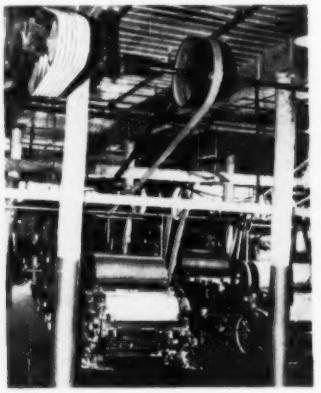
► After 17 months of operation, AlSiMag winder and redraw guides showed no sign of wear at a large nylon-throwing plant located in Pennsylvania. Because of no wear on these guides, which formerly had to be replaced every two weeks, cost savings have been large, the mill reports.

► Substantially fewer ends down after Pneumafil was installed was reported by a cotton mill spinning medium counts of combed yarn. An increase of 25% in spinner's assignments with spinner's approval was also made after a small-scale trial. Tie-ups on the winder were also reduced 15%, due to less slubs and piecings in yarn. A reduction in cleaning was also made.

► A 50% decrease in overhead cleaning was made by Russell Mfg. Co., Alexander



ONE OPERATOR handles this installation of 14 Fidelity reelers at Henderson Cotton Mills, Henderson, N. C. Reelers handle six ends each supplied from a magazine-cone creel. Production on 20/1 cotton yarn is 700 lb. per 8 hr., or double the production made under a previous method of reeling. The mill manager states that the Fidelity reelers also make every skein the same weight and yardage, offering an advantage over previous methods where ends down in the spinning room produced bobbins of varying yardage.



AN INCREASE in picker-room output by at least 2% was made at the Tallassee, Ala., Mills of Mount Vernon-Woodberry Mills by replacing flat-belt drives with Gates V-belt drives. The former belts slipped, even when a 6-in. rider was used, causing losses in production.

COTTON-WASTE BALES are handled two at a time at New England Waste Co., Charlotte, N. C. Fork trucks lift and carry bales from freight cars to storage, stock bales in storage. Bales are handled without pallets by use of wedge-shaped forks polished on both sides.

City, Ala., after installing an air-changing system.

► A saving of 34% on doffing and 10.7% on battery filling was reported by one Georgia mill as a result of an installation of the Numatic automatic spinning-frame doffing control.

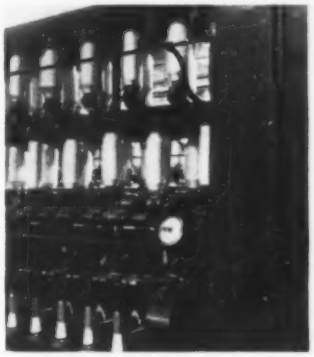
► A 4% greater production per card was realized in one cotton mill through an installation of the Abington vacuum card stripping system.

► Better control by a laboratory of waste, humidity, and moisture regain increased the return on each 100 lb. of raw cotton by 5% in a 15,000 spindle mill. Increased yield was raised from 86 to 91 lb. per 100 lb. of cotton.

► Picker laps weighing 70 lb. are now made at Columbia Mills, Columbia, S. C., as the result of an automatic lap-handling system between picker and card rooms. The system was engineered by Werner Textile Consultants, New York, N. Y.

► Production was increased 5% with no increase in speed due to better-running work and less ends down in one mill as a result of a Pneumafil installation. The mill produces spun-rayon and blend yarns. A reduction of 50% in training time for new spinners was also made at this mill. Waste from ends down was re-used, spinners' assignments were increased, spinning doublings were eliminated, and number of slubs caused by flying lint was reduced.

A SAVING OF $3,800 annually in labor alone is being made at one Southern mill through an installation of an Economy No. 127 up-stroke baling press. The bales produced on this press weigh 150 lb. more than those produced on the old press. Savings in storage space have been made, and the bales can be handled with greater ease. Bales are also neater than before.



PRODUCTION WAS RAISED up to 5% in a mill producing medium-count cotton carded yarns by an installation of Pneumafil. Ends down were cut over 30%; and up to 20% reduction in breakages in each of the warping, slashing, and weaving operations was also reported.

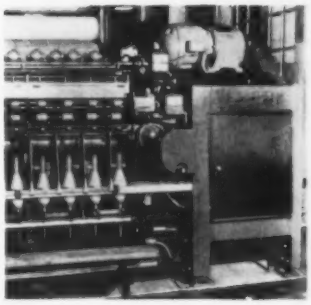
Spinning and Preparatory Processes

Woolen—Worsted

► A. & M. Karagheusian Co., Roselle Park, N. J., reduced card stripping from daily to every two or three weeks with installation of heavy-gage Strip-O-Matic clothing, produced by Benjamin Booth Co., Philadelphia, Pa. The original cylinder, which has been in use approximately two years, has not required grinding in that time.

► National Worsted Mills, Inc., Jamestown, N. Y., used to lose thousands of dollars annually in fire losses in card clothing, replacement, other materials, and labor. Eriez permanent non-electric spiked-apron magnets were installed over ten Proctor & Schwartz feeders to help eliminate card-roll damage from fires and resultant repair and shutdown expense.

► Upholstery Supply Co., Los Angeles, Calif., saved at least $5,000 a year in garnett-machine feeder wire, not counting the expense for lost time, by installing Eriez magnets on six garnett-machine feeders. In one week, 37⅞ lb. of tramp metal was removed by the magnets. Savings were on a scale to pay for the magnets twice within the first year.



REDUCED END BREAKAGE was said to have paid for the installation of a Link-Belt Electrofluid drive on this 100-spindle Davis & Furber Simplex spinning frame at Sykes Bros., Philadelphia, Pa. The drive permits smooth acceleration and running.

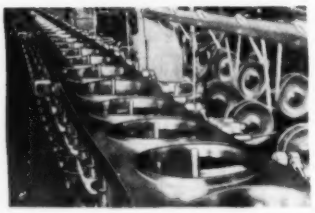
► Talbot Mills, North Billerica, Mass., uses 1½% of Monsanto's Syton with 3% oil added to sufficient water to make an emulsion that is poured out of overhead tank onto a brush which throws it onto wool stock on the picker. Better fiber alignment results than with no treatment. Static electricity is reduced. Uniformity in and increase of tensile strength has thus resulted in reduction of yarn breakage by 10 to 15%.

► A saving in labor cost through a 50% increase in production per operator has been made at Mohawk Carpet Mills, Amsterdam, N. Y., through an installation of Fidelity single-end 9-skein reelers. A saving in floor space has also been made as two Fidelity reelers take up only two-thirds the floor space used by the reelers previously used. One operator handling two Fidelity reelers has a greater production than one operator handling one of the old-type machines, the mill states.

► Ends down in a Rhode Island worsted mill were cut 30%, breaking strength increased 20 to 25%, through use of Syton, colloidal silica product of Monsanto Chemical Co., Boston, Mass.

► An installation of the Warner & Swasey pin drafter at Cleveland Worsted Co. reduced processing operations by 35%. Six operations were cut to three.

► A large New England woolen and worsted mill installed Herr conical rings on its spinning and twisting frames and reported savings in waste alone anywhere from 10 to 20%. Controlled lubrication of conical rings lengthened life of the traveler and allowed increased speeds over the rings previously used by the mill.



MAN-HOURS, machine, materials, and power are being saved at Dorr Woolen Co., Guild, N. H., by installation of a Lincoln Centro-matic centralized system of lubricating spinning rings. Its 14 Whitin spinning frames are so equipped, each with 120 lubrication points covered. Lubricant used is grease, which is applied automatically 32 times each 8-hr. shift. Grease is pumped from drums by two 400-lb. drum-type pumps, air-motor operated and time-clocked controlled.

The installation has resulted in a saving in time of a lubricating crew as well as time of the operator. Production has been increased and product quality improved. Tension on yarn is more uniform, and there is less breakage.

▶ Elimination of spinning doublings by a Pneumafil installation reduced ends down over 30% in a worsted mill producing yarns for men's suitings. Slubs were also reduced, and winder and loom production increased.

▶ Ames Worsted Co., Walsh Mill, Lowell, Mass., reduced its caustic consumption up to 25% by installing a Taylor automatic wool-scouring control. The control also allowed over 50% more grease recovery than had been obtained formerly, at no more cost.

▶ A mill spinning wool-and-staple-rayon blends eliminated spinning doublings by an installation of Pneumafil. Ends down were reduced 32%, and there was a reduction in slubs and thick places in yarn. A reduction in finished-fabric seconds from 10 to 30%, was also attributed to the installation.

▶ Four Whitin worsted-spinning frames at Wyandotte Worsted Mills, Waterville, Me., have been equipped with a Lincoln centralized-lubrication system for lubricating spinning rings. Savings in machine time, operator time, materials, and power are said to have resulted. Each machine has 120 rings lubricated periodically with Non-Fluid oil from a drum. Oil is pumped by a 700-lb. drum type, air-motor operated pump which is time-clock controlled.

▶ Frame speeds were increased over 15% in one woolen mill by an installation of Pneumafil. The mill produces yarn for men's and ladies' wear. Less frame stoppage for cleaning was also reported, as was an increase of 50% in spindle per operator.

▶ A woolen mill in the Philadelphia area graded its wool in sorting bins, then put it on piles and oiled it before it entered the pickers. Each pile was sprinkled with a sprinkling can containing a 10% solution of American Cyanamid Co. Aerotex Softener H. The result was a picker lap practically without static. No dollar-and-cents savings on improved running quality was made, but the application gave more uniform roving and yarn.

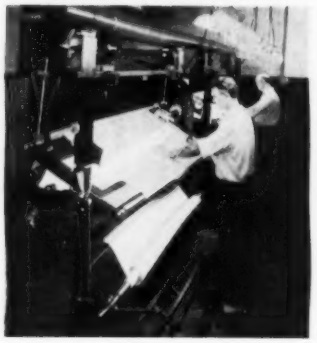
Weaving and Warp Preparation

Cotton—Synthetics

▶ A European weaving mill was able to raise productive efficiency from 71% to 89% by information gained as a result of installing a production recorder on looms. The production recorder computes the over-all production efficiency continuously. The efficiency is recorded on a special recorder in the main office and also registers on a large dial mounted in the weave room. By studying the record, the mill was able to determine what factors were causing losses of efficiency and to correct them. The production recorder, a Swiss invention, is available through Textile Industry Research, Inc., 22 E. 40th St., New York 16, N. Y.

▶ Bates Mfg. Co., Lewiston, Me., obtained more speed from a 4-cylinder slasher and cut down on waterlogging of cylinders by an installation of Johnson Speed Heet System. Speeds were increased from 14 yd. per min. to 17½ yd. per min. Temperature of cylinder surfaces now average about 232°, are brought up to an even temperature in a matter of a few minutes on all four cylinders at the same time, and remain uniformly at the high-temperature level.

▶ Verney Corp., Manchester, N. H., raised the weaving efficiency of 80 looms 10%, and reduced its seconds by 13% in 23 styles of fabrics through use of Monsanto's Stymer warp size. Yarn breakage in weaving, and static electricity, were cut down to reasonable amounts.



S. M. S. TEXTILE CO., Allentown, Pa., increased its trimming from 18 to 28 rolls of 72-in. cloth per operator per 8-hr. day through installation of Textile Trimming & Boarding Machine Co. Trim-Master units. The installation combines winding and examining with selvage trimming.

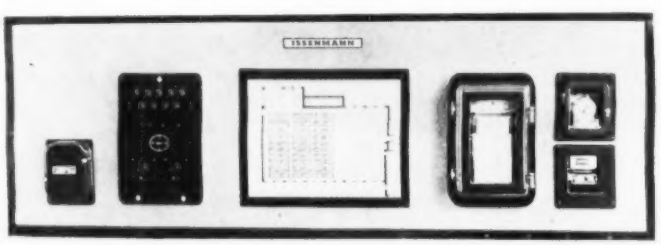
▶ A Massachusetts mill manufacturing cotton goods had a 31% increase in slasher production after installing Barber-Colman moisture-content controls on ten two-cylinder slashers.

▶ A multi-motor drive on a cotton slasher in a Southern mill increased slasher production 25 to 30%.

▶ An installation of motor-driven inspection tables, a monorail cloth-roll hoist, and a straight-line layout doubled cloth-room capacity at Maverick Mills, East Boston, Mass. Capacity is now 600,000 lb. per week, increased from 300,000.

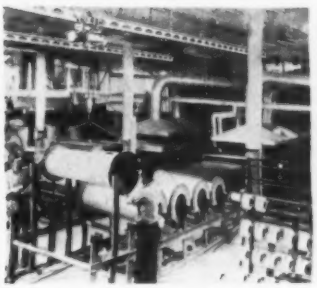
▶ Laurens Mills, Laurens, S. C., installed the Taylor system of rayon-slasher control and reported more uniform sizing, better weaving, better production, and decreased operating costs due to savings in steam and size.

▶ A Southern synthetics mill manufacturing airplane cloth increased slasher production by 25% after installing Barber-Colman moisture-content controls costing about $7,000. By saving 1.7¢. per yd. of material on 126,000 yd.-per-week produc-

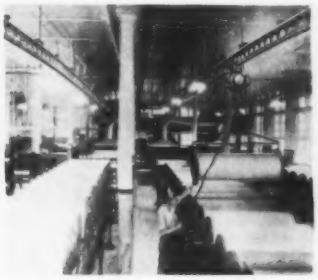


PRODUCTIVE EFFICIENCY was raised from 71 to 89% in one European weaving mill through use of this production recorder.

Drayton Mills Simplifies Beam Handling



A SINGLE HAND-PROPELLED CARRIER with a 1,000 lb. electric hoist handles all beams in and out of the section-beam storage and into the slashers at Drayton Mills, Spartanburg, S. C. There are four section-beam storage racks, each of which has two decks. As each deck holds 22 beams, the entire rack storage will accommodate 176 beams. Because of the tramrail system, the racks may be located quite close together.



THE CARRIER TRAVELS on a Cleveland Tramrail transfer bridge and four tracks over the beam-storage racks. The transfer bridge may be interlocked with any of the four tracks, enabling delivery of any beam to any slasher by the overhead route. Beams on top decks may be removed without handling or disturbing other beams. System was made by Cleveland Crane & Engineering Co., Wickliffe, Ohio.

LOOM BEAMS are removed from the slashers and taken directly to a large storage section in an adjacent room by a manually operated tramrail carrier. The carrier can be run onto either of two interlocking transfer bridges serving the storage area. By use of simple racks, more beams are stored in the area than otherwise would be practical and any beam is easily and quickly handled by the overhead tramrail equipment.

tion, the investment was written off in approximately 11 weeks.

▶ An Eastern mill eliminated static charges built up in weaving saran seat covers by applying a 2% solution of American Cyanamid Co. Aerotex Softener H at the tenter-frame mangle. Painful shocks to personnel were done away with, and laying of the goods in the boxes was simplified.

▶ A Southern cotton mill increased its 1,700-loom weave-room efficiency 1½% by adding Houghto-Wax to its warp-sizing formula. Easier weaving with less end breakage was provided by the slick coating on the warp ends.

▶ A fine-goods mill in New Bedford, Mass., which never had had humidification, increased its weaving production 10% after controlled American Moistening Co. humidification was installed and maintained. The management had expected a 2% increase. Unit costs were consequently lower than had been hoped for.

▶ Russell Mfg. Co., Alexander City, Ala., installed a Moist-O-Graph warp-yarn moisture recorder and controller, size-box-level and temperature controls, slasher-cylinder-temperature control, and size-cooking and storage controls made by Brown Instrument Co. As a result of installing these instruments, slasher production was increased about 25%. This increase alone paid for the instrumentation in 16 weeks; but in addition, weaving efficiency was increased by 2%, which resulted in far greater savings.

▶ About a 33⅓% slasher-production increase and a 2% increase in weave-room efficiency with attendant savings resulted from instrumentation of slashing at Joanna Cotton Mills, Goldville, S. C. Instruments installed were a Moist-O-Graph yarn-moisture recorder and controller, a size-box level and temperature control, a drying-cylinder temperature control, and size-cooking and storage controls, all of Brown Instrument Co.

▶ A Canadian cotton mill increased its slasher production by 22% by Barber-Colman moisture-content control. Steam consumption was reduced to 1.8 lb. of steam per pound of cotton—a considerable saving over previous steam consumption.

Weaving and Warp Preparation

Woolen—Worsted

ALEXANDER SMITH & Sons Carpet Co., Yonkers, N. Y., insures proper lubrication of 343 points on each of four 15-ft. Crompton & Knowles carpet looms by use of a Lincoln Centromatic centralized-lubrication system. The system is automatic; grease is applied once every hour from a drum by an air-motor-operated pump, time-clock controlled. More positive lubrication and reduced spoilage of materials have resulted.

TALBOT MILLS, North Billerica, Mass., saved approximately 4¢ a yard by installing and using a Riggs & Lombard Fleet Line Derby dry-cleaning machine. Savings were effected through reclamation of oils, removal of tar, paint, creosote, chalk, etc., usual elimination of scouring, use of little or no soap, and hot water savings.

Finishing and Allied Processes

Cotton—Synthetics

Dyeing of more yardage per shift is an accomplished fact at American Textile Processing Co., Paterson, N. J. The company has installed conversion units made by Ten-Co Machine Co., for dyeing continuously and without tension in dye becks. About 50 dye becks of all sizes have been equipped with the unit.

The continuous-drying conversion unit

(Continued on page 242)

A STAFF MEETING sets forth the high-cost problem and keynotes the cost-cutting effort. Such a meeting must make management personnel feel directly involved in the cost-cutting program. Management personnel to do an effective job, must know the entire company picture.

A Three-Step Plan for CUTTING COSTS in Your Mill

HIGHLIGHTS: *Series of meetings enlist efforts of managers, line supervisors, and workers—Giving facts fully is best approach—Across-the-board cuts less successful.*

By AUREN URIS and JOHN KOSTEMAYER
Research Institute of America

THE CAUSES OF excessive costs are the body fat of the industrial organization. During the war, and immediately thereafter, textile mills in general became more than pleasingly plump. It was in the cards. As a warring nation, we were too concerned with the matter of production for survival to worry about keeping up our good looks.

But once again we're in the "normal" battle of survival of the fit. The overstuffed, inefficient mills are falling by the wayside.

Inevitably, the spotlight has swung to costs. Such well-known prewar topics as improving quality, increasing productivity, reducing waste have once again entered into the conversations of mill men and figured in the agenda of their formal conferences.

As the situation tightened, and time grew short, the need for immediate relief became critical. Successful cost cutting was the price, in many instances, of survival itself.

THE WRONG WAY. To many a hard-pressed mill management, the answer seemed obvious—10% slashes across the board were commonplace. Everything was included, budgets and personnel.

But strangely enough, corresponding reductions in cost did not occur. In a few instances, costs rose. As one mill man put it somewhat ruefully, "We were cutting budgets, but not costs." Trouble was that efficient departments were hamstrung, while departments topheavy with personnel and much in need of streamlining—departments that would have benefited by a 50% cut—continued to provide a drain in company finances.

Why? Management people, muscle-soft after ten years of non-competitive business existence were unable to clamp down. Some mills had a large percentage of young management personnel; the whole concept of cost-cutting was outside their business experience. In many instances, front-line management seemed to buck the cost-cutting efforts of top executives.

Behind these facts, the situation shapes up in this fashion. Top management finds itself in a situation requiring immediate action. Psychologically, there is tremendous pressure for desperate measures. The dramatic nature of the action of itself brings some relief.

In a typical response to this emotional pressure, the management people down the line get the world, "Cut costs 10%!"

Here are some of the reactions to this directive:

Second hand: "What for? The company has more money than it knows what to do with."

Overseer: "I've already tightened up in my department. Why pick on me?"

DEPARTMENTAL MEETINGS determine starting points in a cost-cutting program. Specific cost leaks are brought out and discussed.

DISCUSSIONS WITH WORKERS encourage participation in the program. Workers know their own jobs best of anyone and can be helpful if their earnest cooperation is won by giving them all the facts.

Plant superintendent: "But just last week I was told I'd have to expand operations."

THE RIGHT WAY. Contrary to the previously mentioned case, another mill cut costs successfully. In this mill, the top executive and his staff provided only the basic approach. The details and the pinpointing were left to the initiative of other personnel, including those right down at the bottom of the line. No personnel were discharged; no necessary operation or service was eliminated. As a matter of fact, some budgetary items were actually increased. But the acid test of cost cutting was definitely passed; costs were decreased insofar as unit costs were concerned.

A 3-POINT PLAN. The plan consisted of three major steps:

1. Enlisting all management people in the cost-cutting effort.
2. Briefing operating executives and supervisors on a practical approach to cutting costs on the departmental level.
3. Getting rank-and-file participation in the campaign.

How generally applicable is the plan? For some mills, the procedure as outlined below can be applied with little change. For others, because of size or organizational setup, changes are advisable. But these changes should be essentially a tailoring procedure that suits the plan better to specific needs. An attempt to use steps 1 and 2, for instance, and not 3, might prove partially effective. But it may result in an effort that makes some progress, but misses the full payoff.

In thinking of the procedure in relation to your own mill, consider not only the plan itself, but also its implications. It may involve, to some degree, a change in fundamental personnel thinking, or a switch in methods of communication.

STEP 1. The first step has as its objective the selling of the need for cost-cutting. For most management people, it would seem that a simple one-sentence statement would suffice. It may intellectually. But to really enlist their efforts, it is important for management personnel to see the whole picture, to get a view behind what is all too often an iron curtain of top-brass arbitrariness.

Remember, you're bucking the widespread misconception that costs are the concern of the main office, or of the top executive alone. The danger of this kind of thinking lies in having effective efforts in one department where the overseer has observed the need erased by continued laxity elsewhere.

Whether an organization includes two individuals or two hundred, it is important to make all feel directly involved in the cost problem. To this end, a staff meeting provides a good background.

There are two choices, either a meeting of the entire management group, or a series of smaller gatherings according to divisional areas. Judge whether the impressiveness of the first choice will overbalance the possible gains of informality of the second. It may be true in your mill that closer interest and a greater sense of participation can be created in an intimate-sized as compared to a large-sized group.

The agenda for the meeting should be simple, and not include anything not directly connected with cost-cutting. Two executives should head up the proceedings. One should be the official in the company best able to present the company's financial condition. The other should be, preferably, the top of the line-staff organization, usually the president or general manager. The latter's duty is simply to introduce the speaker. This introduction should be as businesslike as possible, to underline the action nature of the conference.

In his talk, the company official should build his presentation around these factors:

a. Present demand for your product.
b. Competing products, including
   (1) Their price advantages.
   (2) Other competitive advantages.
c. The effect of shrinking markets and heightened competitive activity.
d. The effect of continuing high cost levels.

In a talk built on these points, there must necessarily emerge, both by implication and explicit statement, the fact that the situation can only be met by clamping down on costs. Both in the body of the talk, and at its conclusion, the executive should

(Continued on page 224)

These Methods Were Used by New England Overseers to Cut Department Costs

Putting hank clocks on pickers and paying tenders by piecework lowered picking cost by 8%, increased production, increased picker tenders' earnings.

Elimination of one drawing process on certain types of work cut drawing costs 32%, lowered breaking strength 3.4%.

Improving running of work and reducing stoppages increased production 3 to 4%.

Standardization of machine speeds increased production 9%.

Cutting down on rejected picker laps and lap waste reduced picking cost 2%. A reduction of 1½% in slubber-drawing waste lowered labor cost all the way back to the picker.

A case of rearrangement of job elements in jobs requiring less than 60% of employee's working time was having yard gang open cotton bales, saving 26% in getting cotton to openers.

A vacuum-stripping installation on cards cut labor cost 17%.

A vacuum-stripping system was used to carry waste to waste house directly, saving 21% in haulage costs.

The Overseer's Role in Lowering OPERATING COSTS

HIGHLIGHTS: *Successful plant operation depends on efficient department management—Simplified cost analyses aid overseers in cost control—Ratio of indirect labor important factor—Piecework and process elimination a means of cost reduction—Waste reduction lowers department costs.*

By E. H. HELLIWELL
New England Editor, TEXTILE WORLD

AN ALERT AND CONSCIENTIOUS overseer can exercise considerable effect on his department costs. His intimate knowledge and contact qualifies him, better than any one else, for the task of applying fundamental cost-reduction principles in a judicious manner. If these basic rules are observed faithfully, he can be assured that his costs will be reduced to the lowest minimum possible under present operating limitations.

Cost-cutting action can be taken despite the feeling on the part of some overseers that their influence and control of department operation and costs have decreased almost to the vanishing point. Some men contend that their present subordinate position is not due to any failure in past performance as department heads. It is rather the decision of management that present labor regulations, restrictions, and handicaps require more centralized control. It is said that this decision may be justified, but the current confusion existing in many plants entitles any overseer the right to question the effectiveness of this so-called centralized control.

In spite of restrictions and implied unimportance, the overseer can still apply fundamental cost-cutting principles that apply today as surely as they did in the days preceding this uncertainty. That measures can and have been taken to cut costs effectively is revealed in the following case studies obtained by interviews with New England mill overseers.

SIMPLE COST ANALYSES. Many department heads state that simplified methods of estimating and reporting costs would greatly assist them in controlling these costs. It is claimed that many complicated systems of cost analysis are statistical masterpieces worked out by mathematical wizards whose expert services are constantly needed to interpret the results for both management and department heads.

Items of general plant maintenance and administrative costs are often included in these costs analyses sent out to the departments. Overseers state that the inclusion of these items adds to the complication; they are of no value and little concern to him. He has no control over the incurrence of these expenditures nor of their prorata allotment to his department.

One overseer, who still retains some direct control and who has been successful in maintaining low operating costs, claims that only six vital factors are necessary to consider in running a department. The control of these factors on each process insures satisfactory cost control. He says that further elaboration is unnecessary.

VITAL FACTORS. This overseer outlines the factors in his system as follows:

Process	(One of any)	
	Standard cost	Actual cost
Direct labor cost....		.....
Indirect labor cost...		.....
Total cost		.....
Ratio indirect to direct		.....
Total units produced.		.....
Labor cost per unit..		.....

Payroll analysis with this method makes the comparison between standard and actual costs easy. Such an analysis warns of increased indirect labor cost and furnishes sufficient information to locate quickly the real cause of increased unit costs.

The establishing of standard costs requires complete knowledge of processing details by the overseer to be certain that true standards and values

are obtained. Unless these standards are correct, he may find himself heavily penalized in trying to meet these standards.

One actual case is cited where the production and cost standards were erroneously established by experts. The standard cost of carding was based on a production of 91,200 lb., and the standard cost of drawing on 96,240 lb. In this case, drawing production, despite an attainable high efficiency, was limited by actual card production. In dependent-process ranges, for a fair allotment of standard costs, these standards should be based on the production of the process with the lowest capacity, as this is the limiting factor of the entire range.

RATIO IMPORTANT. Overseers generally find that if the standard production per machine is maintained, the direct labor cost will take care of itself. Partial department curtailments are often difficult to prevent and are a frequent cause of increased actual costs over standard costs. The increased ratio of indirect to direct labor cost upsets the balance. Small fractional curtailments will not always permit the reduction of indirect labor to the proportion of the number of machines running.

Maintaining proper production balance between processes can prevent many partial curtailments. When this partial curtailment does become necessary, it is more economical to stop a large number of machines for a shorter time, than a small number for a longer period. The production loss may be the same in both cases, but with a larger number stopped, the elimination of a proportional part of the indirect labor cost is possible. The number of employees affected is greater, but the wage loss per hand is less, and power can often be saved by shutting down an entire section.

PREVENTION OF STOPPAGES. Machine stoppage for short or long periods means loss of production. Where the process is on a piecework basis, the labor-cost increase may be slight on direct labor, but the indirect-labor cost may show a large increase. The stoppage may be due to excessive end breakage, increased doffing time, shortage of back stock, or other causes. Overseers report that an increase of 3 to 4% in production with a proportional reduction in labor cost has been obtained by improved running work and reduced stoppages.

Maintaining of standard speeds on all machines is claimed by one overseer to be one means by which he increased his production as much as 4% on some processes. This increase was reflected directly in his reduced cost per unit. Belts worn thin, running too slack, or having poor driving surfaces were the main causes of this production loss. A weekly check of speeds on all machines is recommended to prevent such losses.

WASTE AFFECTS COSTS. One alert overseer asserts that with all his present limitations, he finds one effective way to lower his departmental costs is by a reduction in the amount of waste made—both processing and reworkable. Some of these savings show up directly in his unit costs while others are less evident, but all of them reduce the total plant cost. He points out that a reduction of 2% in his rejected laps and lap waste was almost equivalent to a 2% reduction in his picker pay roll. A reduction of 1½% in his slubber drawing waste showed a perceptible saving in labor cost all the way back to the picker. These small percentage savings are not always noticeable on each process, but their total is often sufficient to keep unit costs within the standard cost limits, and they can offset many unavoidable operational losses.

Putting hank clocks on pickers and paying picker tenders by piecework was the way one overseer lowered his picking cost. He claims that his production was increased, picker tenders' earnings were more, they were better satisfied with their jobs, and his picking cost was reduced by slightly more than 8%.

ELIMINATION OF PROCESSES. A report from an overseer on medium counts states that he made many experiments on eliminating one process of drawing on certain types of work. The stock made from this one-process drawing ran as well in the roving, spinning, and weaving as the two-process drawing. There was, however, a slight loss of 3.4% in the skein strength of warp yarn. He considered the savings of 32% in drawing labor cost more than offset the slight loss in yarn strength.

Experiments were also made on waste-mix yarns by eliminating all drawing processes and running card sliver direct to long-draft roving frames. Increased end breakage on roving and spinning frames, and the greater number of spare hands required in the spinning to keep ends up proved that it was more profitable to use one process of drawing on this kind of yarn. The straightening and parallelizing effect of at least one drawing on the fibers is necessary for efficient processing of most types of yarn.

Time studies made by an overseer on some of his job assignments showed that many of these jobs required less than 60% of the operator's working time. There was little he could do about many of these assignments. He did, however, rearrange some job elements; and by having the yard gang come in once a day and open up the cotton bales, he claims a savings of 26% in getting cotton to the opener floor.

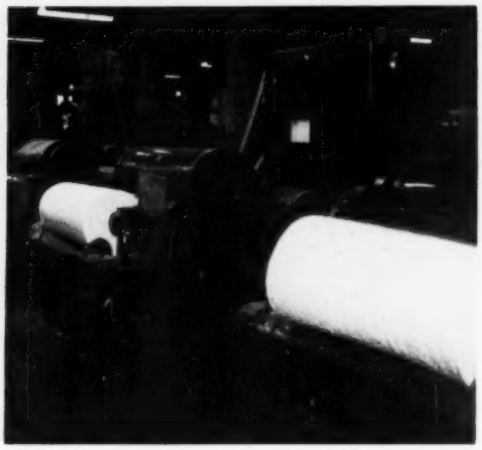
JOB ASSIGNMENTS. A good example of cooperation between department management and the workers is related by an overseer who changed over his card room from manual to vacuum stripping. A careful study of job-element time values resulted in a readjustment of job assignments that was fair and satisfactory to all. The most disagreeable part of the card tenders' job was eliminated, the number of cards run by each tender was increased, there was no increase in actual work performed by each tender, and the reduction in labor cost for tenders was reduced 17%.

A saving in waste-handling cost was made by one overseer with a greater utilization of a vacuum-stripping system. The long haul from the operating departments to the waste house was eliminated. A large part of the waste was conveyed by vacuum directly to the waste house. The savings in haulage costs was estimated at 21%.

Proper separation, collection, and classification of waste presents many opportunities for savings in which every department in the mill may share. Many wastes have a high resale value if kept clean, free from oil, unmixed with lower grade wastes, and if properly classified. Expert advice from the waste dealer on the most profitable classification can result in a large increase in price received for waste. The savings may not be credited to each department, but the savings to the mill will be well worth-while.

Many overseers find that a close check on the expense for supplies, machine repair, and replacement parts offers many opportunities for department savings. One important factor in controlling cost of supplies is a careful check on the quality and useful life of the supplies received. Inferior, low-priced supplies may result in a greater number being used, because of poor quality, with a higher total cost to the department.

STRICT COTTON STANDARDS, set up by the technical-control department of one mill on the basis of fiber-tests and mill-performance data, are adhered to by the mill classers and buyers. Lots of individual bales are rejected if they do not come up to the standard.



BETTER CLEANING AND BLENDING with lines of new opening machinery and pickers are being sought by more and more mills. Less good waste and more motes and dust; fewer setback laps; and more uniform laps, sliver, roving, and yarn are being obtained.

COTTON MILLS

Cut Costs at Every Step

HIGHLIGHTS: *Cotton-buying program should have close technical control—Breakdown of jobs and task specialization said to be economical and efficient—Maintenance crew saves 50% of repair parts—New looms and air-changing step up weaving efficiency 5½%.*

By P. M. THOMAS
Associate Editor, TEXTILE WORLD

ASIDE FROM THE VERY OBVIOUS cost-cutting steps of operating machinery as many hours a week as the market will stand and reducing overtime pay to a minimum, progressive mills are depending on steady improvements to keep them in good competitive positions.

Admittedly, not much can be done by mills about the price of cotton. Individual mills, however, are making important strides in lowering their cotton costs. The approach is to know what cottons give them the best product at the lowest cotton and manufacturing costs—and to buy only those cottons.

CONTROL OF COTTON. One large mill that set up close technical control over cotton buying reports advantages in spinnability, product quality, and less reworkable waste. In the over-all picture, the cotton-quality control staff has much more than paid its way.

The staff consists of cotton classers and fiber technicians. This department, figuratively, is the funnel between the cotton buyers at the markets and the mill.

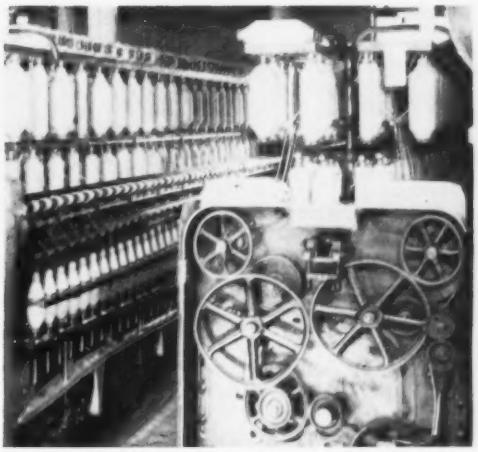
Rigid standards for cotton, based on fiber properties correlated with records of mill performance, have been set up. In the market, the buyers obtain samples of lots of cotton that meet specifications of grade and staple length. These samples are turned over to the control section for quick tests with such laboratory machines as the Fibrograph, Pressley strength tester, and the Micronaire.

Reports come quickly from the technicians, and the cotton is bought or rejected on the strength of the test results.

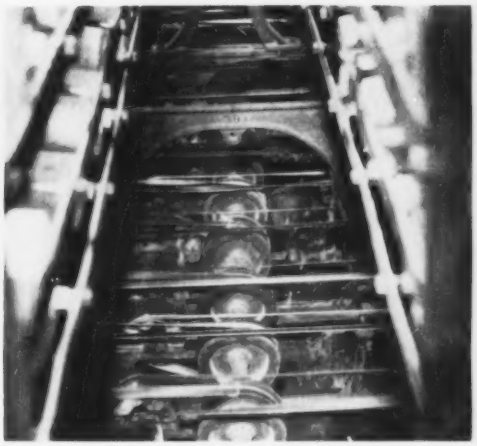
More complete tests are made throughout the year before the bales are put in process. Individual bales may be rejected at this point. Data on performance in the mill is accumulated and tied in with fiber properties to serve as a future guide.

The results have been that the much-dreaded "snowstorms" in the spinning room have been eliminated, and the over-all cost per pound of production has been reduced.

LABOR. Proper selection, training, and utilization of workers are being used to reduce manufacturing costs. Practically all mills screen prospective employees closely; but many mills are now backing up their judgment with physical, mental, and adaptability tests. The long-range result is that

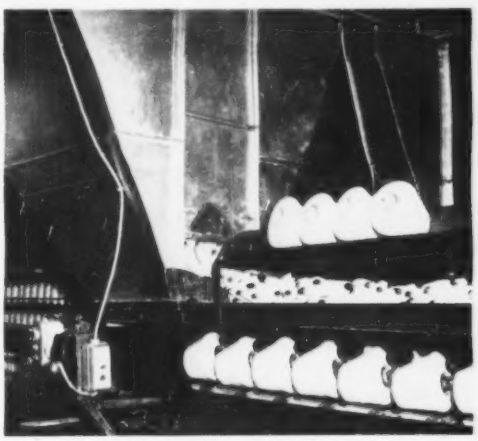


REBUILT SPINNING FRAMES, *changed over from band drive to tape drive, are operating more economically for one mill. Many mills, already on tape drive, have changed or are changing the frames to spin larger packages. As much as 50% increase in the amount of yarn on a bobbin is reported.*



TAPE-DRIVING PULLEYS, *replacing the conventional cylinder, are reported by some mills to pay for themselves quickly. In most cases, front-roll speed is increased 10 to 15%, fewer tapes break, broken tapes can be more quickly and easily replaced, and spindle speed and twist in the yarn are more uniform.*

YARN STORAGE, HANDLING, AND CONDITIONING, *formerly involving much costly hand labor, are combined in an inexpensive installation by one mill. Behind the board wall to the left are yarn-storage bins that feed yarn by gravity to the belt conveyor, which moves it to the conditioning machine.*



NON-PRODUCTIVE HAND LABOR *was replaced by these yarn-storage chutes that feed warp yarn onto conveyor-belt creels on winders. The chutes are filled by another conveyor belt that runs from a yarn-conditioning machine. The installation was said to pay for itself in two years.*

fewer new employees are hired and lost during a costly training period.

Tests for eye-and-hand coordination, motor speed, finger dexterity, and manual dexterity give a fairly accurate answer to the question of an applicant's fitness for a particular job. When the applicant's ratings are compared with the average ratings of old employees on a job, the mill can intelligently judge whether to spend money to train the applicant.

New-employee training was put on a more workable basis during the war than it had been. Now, nearly all mills have an adequate training program. The general pattern is to place the new employee under an experienced worker and advance him in responsibility, work assignment, and pay as he progresses.

JOB SPECIALIZATION. Better utilization of workers, new and old, is a certain way to reduce the cost per pound of yarn or cloth. Many mills have found it economical to assign jobs by tasks rather than by machines.

In one mill the card jobs, for example, are assigned as follows:

Lap trucker (trucks laps to the cards and racks them)

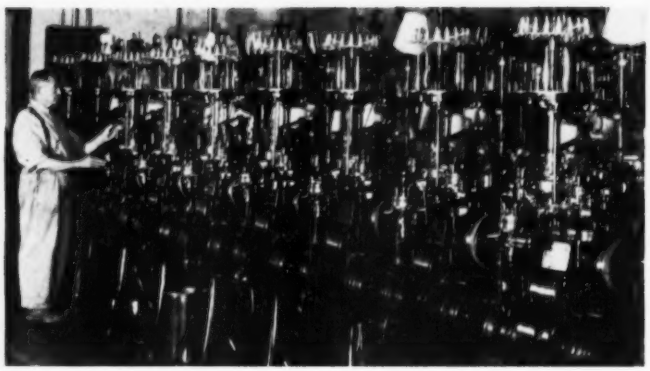
Lap man (lays laps in the cards)

Card tender (gets up ends and doffs)

(Continued on page 234)

HALF-HOSE COST CUT

Program Shows Saving of 20%



HIGHLIGHTS: *More production per man-hour cuts knitting cost 20% after installation of standards—12-course-per-min. turndown anklet requires 4 min. per dozen, knit at 22 links high speed, 30 links slow speed.*

By C. MALLARD BOWDEN
Southern Editor, TEXTILE WORLD

GREATER PRODUCTION PER MAN HOUR and a ceiling on overhead costs during seasonal or business-cycle slumps are the main targets for cost reduction in half-hose mills. While new equipment is an obvious weapon for small mills, it does not assure bull's-eye accuracy. It does not train or spur employees to consistent effort. It effects no control over that effort or over the bulk of overhead costs that must be paid even during temporary slumps.

The most progress in cost reduction appears to come from the extra effort of half-hose-mill managers who blend high machine production, consistent worker performance, and control over the details of cost.

Out of many contacted for this survey, four half-hose mills believe that they have a method of increasing worker performance. Three had standards departments or other industrial-engineering facilities. Two mills had highly organized personnel and train-

(*Continued on page 118*)

Technical data — Style-25 turndown anklet, size 8½, on plain automatic machine with 3-in. cylinder, 156 needles

250 cylinder rpm. high speed	0.15 yarn breaks per doz.
22 links high	200 rpm. low speed
50 links per chain	30 links low
30/2 yarn	600 courses
0.38 lb. per doz.	2¼ lb. per cone
5.92 doz. per cone	35.52 doz. per 6 cones of yarn
0.87 doz. per machine hour	6.98 doz. per 8 cones
	3.0% waste

1 20% COST REDUCTION in the knitting of size 8½ anklets was obtained after the application of simple work-load standards. Here is the first step in calculating the necessary technical data which is worked out here and then applied to the time study.

On the plain automatic machine with a 3-in. cylinder and 156 needles, the machine time per anklet is as follows:

$$\frac{22 \text{ links high speed} \times 12 \text{ courses per link}}{250 \text{ rpm.}} = 1.06 \text{ min.}$$

$$\frac{30 \text{ links slow speed} \times 12 \text{ courses per link}}{200 \text{ rpm.}} = 1.80 \text{ min.}$$

$1.06 + 1.80 = 2.86$ min. machine time per anklet

2.86×24 anklets per doz. $= 68.64$ min. per doz.

Allowing for stops, the machine running time for this particular style is:

480 min. (1 shift) − 1.50 min. (Misc. stop time) = 478.50 min. per shift.

Total production would therefore be:

$\frac{478.50}{68.64} = 6.98$ doz. per shift, or $\frac{6.98}{8} = 0.87$ doz. per hr. per machine.

Timestudy standard — Style-25 — Knitting

		Time per doz. (Min.)
1. Start machine	0.04 ÷ 6.98	0.006
2. Carry 6 cones of yarn to machines	1.70 ÷ 35.52	0.048
3. Tie yarn and dispose of empty cone	0.42 ÷ 6.98	0.060
4. Retie yarn breaks	0.50 × 0.15	0.075
5. Inspect anklets and lay them on machine	0.92 × 24	2.208
6. Pick up, count, and tie inspected anklets	0.45 × 1	0.450
7. Place dozens in empty bag	1.75 ÷ 25	0.070
8. Collect all waste at end of shift and place in bag	5.32 ÷ 24 ÷ 6.98	0.032
9. Machine cleaning	0.81 ÷ 6.98	0.116
10. Patroling and misc. work per machine hour	0.33 ÷ 0.87	0.380
11. Stop machine	0.06 ÷ 6.98	0.009
	TOTAL	3.454
	+15%	0.518
	STANDARD	3.972 or 4.00 min.

2. HALF-HOSE MACHINE WORK LOAD, second step, measures the job precisely, breaks the job down into 11 elements, and accounts for all the work done by the knitter on a turndown anklet. The first vertical column of figures gives the standard time (in decimal minutes) for each element of the job. These times were averaged from several time studies of the knitting operation.

The second vertical column uses the technical data to calculate the amount of time in minutes that will be allowed for each element per dozen pairs of anklets per machine.

Each element of the job is given a precise measurement per dozen. For instance, element 1, "start machine," occurs at the beginning of the shift only. It takes 0.04 min. to start one plain automatic machine. But this one machine produces 6.98 doz. in eight hours. Therefore, the standard time, 0.04 min. is divided by 6.98 in order to obtain the time required per dozen.

Similarly, element 2, "carry six cones of yarn to machine," occurs one time in 35.52 doz., since that amount of yarn makes 35.52 doz. Thus the standard time for element 2 is divided by 35.52 to obtain 0.048 min. per dozen anklets.

All elements are extended in order to obtain a measurement of time per dozen. The third vertical column is then added up. The total is 3.454 min. To this total, 15% is added for fatigue and personal-leveling factor bringing the standard to 4.00 min. Otherwise the operator would not be able to exceed the time set up. Without the chance to exceed the standard time, there is no incentive to the knitter.

3. HOW TO USE HALF-HOSE STANDARD. A standard time similar to the 4.00 min.-per-dozen anklets illustrated was used to obtain a 20% reduction in knitting labor cost at one mill. How?

Knitters were badly mis-scheduled on workloads. They were doing miscellaneous tasks that cut down on their productive time, i.e., machine tending. Even so, they did not have a full job. Similarly, they were not making much money in wages.

After studies showed conclusively that rescheduling of workloads would result in time saving, the knitters were given additional machines. Their miscellaneous tasks were given to less-skilled help. The savings from the project were shared by the company by means of increased wages to the knitters. Results: knitters made more money, had enough work to keep them busy.

As with nearly all incentive installations, there was a production increase because knitters kept machines running in order to produce more dozens that were paid for by the company.

How can the 4.00 min. per dozen anklets mentioned at the left be developed into a standard of pay? Two ways may be used. First, piece rate. The rate per hour of the knitter is multiplied by the standard min. (4.00) and divided by 60 min. per hour.

Second, point-value rate. In this system, a knitter gets paid 4.00 min. per dozen. If she knits 156 doz. in 8 hr., she is paid for 156 x 4.00 min., or 10.4 hr. If her base rate is $0.80 per hour, her pay for that day is $8.32, which is quite a nice bonus.

While point-system rates are more difficult to work out than simple piece rate, they have many advantages for cost-control purposes. This control can be extended to the whole mill and all jobs, both direct and indirect. The possible savings to half-hose mills which generally have shied away from incentives is large.

HALF-HOSE COST CUT

Program Shows Saving of 20%

(Continued from page 116)

ing programs that counted increasing production and improving worker performance as their reasons for being. (See TEXTILE WORLD, October, 1949, p. 118, for a description of intensive looper-operator training.)

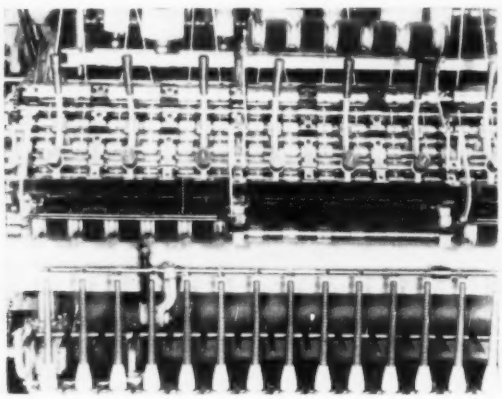
Reasons advanced by most half-hose men for the relative lack of standards engineering were based upon the many styles usually found in the knitting room, the seasonal changes in styles and yarns, the large number of operations in the manufacture of half hose, and the 70-odd phases of those processes that required purely hand motions.

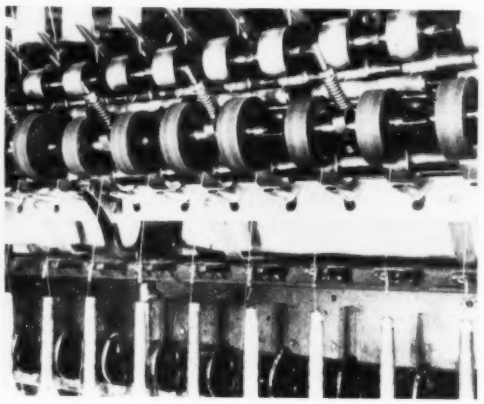
These same reasons, however, were being cited by the few proponents of standards as evidence of the need for measured work loads, measured standard data for scheduling, and measured values upon which some control of both direct and indirect labor costs are built.

ADVANTAGES. The mills believed that the following advantages came from a standards program:

1. Precise measurement replaces guesswork in setting standards and rates of pay for all styles. Styles which cost too much can be discarded.

2. Seasonal changes in styles on the same knitting machines do not re-





Long Draft and Pneumafil Are Worsted

COST-CUTTING TEAM

HIGHLIGHTS: *New developments must be scrutinized in light of quality, operator efficiency, and machine efficiency—Long-draft changeovers will be rule in mills—Pneumafil can eliminate nearly 25% of end breakage.*

By FRANCOIS CLEYN
President, Spinners, Ltd.

IN THE PAST FEW YEARS textile mills have absorbed new developments with an astonishing rapidity; sometimes with very little investigation, and always with one purpose: getting more speed. Many mills became speed crazy when assured of disposing of their output, and therefore maximum production was almost the only important factor. Machine efficiency came first and operator efficiency second. Quality was often forgotten.

Under the light of a competitive market, it is safe to say that this position has already reversed itself. Any new development will now have to be examined as follows:

What does it do to the quality?

quire completely new studies. Only certain elements of the operation must be rechecked or recalculated.

3. Precise standards mean correct labor costs on each style and size manufactured.

4. The 70-odd purely hand motions in a half-hose mill demand standards. Employees must have precisely set incentives of pay that will spur them to greater production, and correspondingly greater earnings.

5. Savings in work loads may be shared with employees, bringing up earnings, and still cutting the labor cost per dozen.

6. Employees devise their own short-cuts on incentives, and each increase in production cuts the overhead cost of that work center. This statement is true because the overhead cost remains fixed, while the dozens of hose processed increase, thus lowering the overhead cost per unit and dropping the mill's over-all break-even point.

7. With every direct operation in a department on measured standards and rates of pay, the indirect labor of that department can also be covered by an incentive that effects a control over a variable cost that always gets out of hand during seasonal changeovers.

HOW TO DO IT. Because of the general lack of half-hose standards data, one method of working out a measurement of a knitter's job on plain automatic machines is shown in detail on pages 116 and 117.

A 20% reduction in direct labor cost resulted from studies similar to those outlined under 1 and 2 above which were made by J. W. Short, industrial engineer. Savings from the studies were shared with employees who obtained sizeable increases in pay. Former piece rates used on the knitting jobs were changed to point-system or time-value methods of pay with guaranteed base rates per hour.

Does it increase operator efficiency?

Does it increase machine efficiency?

Two developments which account for themselves favorably under this scrutiny are long draft and Pneumafil.

LONG DRAFT. Long-draft spinning has become an accepted fact. It started on the American system, is commonly used in the French system, and is being successfully adapted to the Bradford system.

In the past years, spinning mills have concentrated their efforts on changing over from cap to ring. It is safe to say that more money has been spent on these changeovers than on any other development in the Bradford worsted-spinning field. Most of these changeovers are now in effect.

Almost all machinery builders will soon find ways and means to change the drafting arrangement on most standard spinning frames to long draft, and change-over jobs to long draft will be carried out on a very large scale. What are the advantages?

a. Better quality or reduced drawing cost. Long draft will permit the mill to operate with more doubling in the drawing, without any increase in cost; or alternately, to reduce the cost by increasing the drawing-sliver weight.

b. Higher operator efficiency. The spinner has basically three tasks to perform: creeling, piecing, and cleaning. Assuming that drafting is stepped up from 7 to 14, it is obvious that the creeling operation has been cut in half. Consequently, the work load per spinner can be increased.

c. No reduction in machine efficiency. It is obvious that if the quality of roving has been improved, or at least maintained, and the actual work time of the operator remains the same, no reduction in machine efficiency can result.

PNEUMAFIL. Long draft reduces the creeling time, and Pneumafil is reducing the piecing time. (Pneumafil is the use of air to pick up broken ends and conduct them safely into a waste container, thereby avoiding double spins. Details of the system vary from one type of spinning frame to the other, and also from one system of spinning to another.)

Piecings are made necessary by end breakages. These breaks can be grouped in two categories:

a. Actual breaks.

b. Breakages called doublings, caused by flying of one end into the other.

The ratio between these two groups varies from mill to mill, and is influenced by a number of factors, such as humidification, spindle speed, spacing between spinning frames, separators, pig tails, thread boards, ring diameter, traveler, quality and count of yarn, etc.

Test conducted in one worsted mill would indicate that, under average conditions, spinning a 60s quality into 1/32s count on standard B.W. Whitin frames at 6,200 rpm. with a 2.75-in. ring diameter, the breaks can be classed as follows:

75.7% actual breaks

24.3% doublings

In this case, Pneumafil will eliminate close to 25% of total end breakage. The actual breaks can be pieced up much quicker because:

a. Ends are pieced up as on cotton frames, with one hand.

b. There is no delay caused by lap removal.

In view of the fact that after breaking the end is sucked in the waste container and that this process is not interrupted until the spinner makes his piecing, it is necessary to figure the spinning wages on a basis that will be a ratio between hanks produced and waste made. Actual waste should be considerably reduced because end breakage has also been reduced.

QUALITY. Quality is considerably improved because double spins are eliminated, and the air suction guarantees a clean thread board. Operators efficiency is improved because of:

a. Quicker piecing.

b. Less end breakage.

c. Less cleaning.

d. No lap removal

e. No waste sorting by the spinner.

The mill installing Pneumafil will also realize a considerable saving when it comes to waste disposal because 90% of the spinning-room waste will consist of clean, soft waste for which a higher price can be obtained. Colored waste is also kept automatically separate in the waste box and can easily be sorted to suit the mill requirements. Pneumafil, as stated, is a success on the American and French systems and has now been in introduced on Bradford spinning.

On the basis of visiting a few Bradford installations, Spinners, Ltd. will be fully equipped with Pneumafil. A report of the installation, giving actual cost-reduction figures, will be made available for a future issue of TEXTILE WORLD.

WELL-KEPT HANDS are a necessity for preventing pulled threads. Company manicurist can keep employees' hands in good condition.

PLASTIC TURNING FORMS for gray-hose inspectors decreased pulled threads 70%.

12-Point Program Reduces FULL-FASHIONED COSTS

HIGHLIGHTS: *Air conditioning and functional painting help step up efficiency—Aids to handling increase percentage of good hose—Good maintenance and cleaning of machines are necessary for economical operation.*

By H. B. LeFEAUX
Consulting Editor, TEXTILE WORLD

A SUBNORMAL MARKET for women's full-fashioned hosiery has caused mill management to think up every conceivable idea of improving efficiency and lowering costs. To be sure, there are two needs that are always outstanding in times when business is slow due to competitive markets: improved quality and lower costs.

Basically, costs come down to labor, materials, and machines.

Management must be on the alert today to stress to its employees the necessity of becoming quality conscious. Good relationship with employees must be built as one of the first steps in cutting costs. Management should take employees into its confidence and make them partners in production problems.

Workers, generally because of the lack of experience, often will produce only in the easiest way. For instance, waste of materials results in some cases because workers think that they do not have to pay for it.

This trend of thought in the worker's mind must be explained through foremen and supervisors. Some mills are reducing the actual cost of their product as a result of explaining to employees that such things as waste do cost every man on the job indirectly.

SUGGESTION BOXES. Several mills are still obtaining benefits by encouraging employees to take full advantage of the use of suggestion boxes placed in each department.

Efforts continue toward creating interest among employees in making suggestions on how their jobs, or any job in a department, can be bettered so that costs are lowered and quality increased.

Many times a suggestion has solved actual production problems and saved many dollars.

One mill has recently set up a quality-control program; and in order to make it function properly, it sent each

employee a letter explaining the importance of the quality-control program and how each could help individually to make it a success. Improvements have already been noted.

Some mills that never thought of installing air-conditioning systems are now finding out that air conditioning is one way of cutting costs because it plays an important part in the efficiency of production, quality, and better working conditions for their employees.

A number of mills are able to show that they have reduced the percentage of pull threads by the use of an experienced manicurist to keep employees' hands in good condition and their nails manicured regularly. In one mill, the manicurist continues a regular cycle through all departments of the mill, including the knitters. She keeps a record on each employee to determine if hands are being kept in good condition to prevent pulled threads in the handling of goods. Pull threads, of course, are the greatest problem in the manufacture of fine-denier nylon hosiery.

FUNCTIONAL PAINTING. Men and women working with precision machines and fine yarns need good vision aids, such as the finest type of lighting and proper color schemes.

Functional painting has played an important part in cutting mill costs. The proper colors of walls and ceiling not only brighten up the interior of the room, but they also help the workers see better and feel better. The results in nearly every case are improved quality and rate of production.

It is safe to say that 60% of the current full-fashioned-hosiery production is on 51-gage 15-den. stockings. Probably around 95% of this production is knitted directly off pirns. Some mills report that they are knitting stockings cheaper by knitting direct; others report that by having the yarn thrown and twisted, although it cost 35¢ to 50¢ per doz. more, they save money because the thrown yarn gives a better percentage of first-quality hose as a result of fewer pull threads and better-fitting stockings.

DIRECT KNITTING. It is probable that in most cases knitting 15-den. yarn direct is the most economical way. By using oil jars equipped with felts saturated with special 15-den. nylon oil and letting the yarn run over this oily felt, direct knitting has, in some mills, cut down on "fish eyes" in knitting as much as 40%.

12-Point Economy Program

1. Good labor relations
2. Suggestion boxes
3. Hands kept in good condition by manicurist
4. Quality-control program
5. Air conditioning
6. Functional painting
7. Oil jars for lubricating yarn
8. Proper handling of material to avoid waste
9. Plastic turning forms
10. Gray-hose drying system
11. Better machine maintenance
12. Better machine cleaning

The oil also keeps the sinkers, dividers, and knock-over bits lubricated so that the stitch sheds better in the loop formation. Another advantage is that when stockings are stored in the gray, those knitted with oil do not have as great a tendency to shrink as do those that were not knitted over oily felts. The film of oil makes the difference.

Most mills probably have paid as much attention to handling goods as to any other one item in manufacturing. The use of flannel or other soft material for the knitter to tie 2 or 4 doz. hose in is being practiced more and more. Figures show that this method has helped reduce pull threads in handling. The stockings, wrapped in flannel, go from the knitter to the looper, seamer, inspector, gray stock room, and preboarding room. Here, the wrapping is taken off and sent back to the knitting room to be used again.

One mill cut its pull threads 70% in the gray inspection by adopting a special form designed for turning nylon stockings.

In trying to run down causes of pull threads at this mill, it was noticed that the stockings had few, if any, pulls in it when the gray inspector pulled the 15-den. stockings on over the black expansion form. When she took the stocking off the form, turned it, and placed it back on the expansion form, the inspector noticed that there would be several small pulls in the stockings that were not there before. In taking the stocking off the form the first time to turn it, the fabric coming in contact with itself caused pulls.

A plastic form was adopted just for turning the stockings and then placing them back on the original expansion forms for inspection. The result was the 70% reduction in gray pull threads.

DRYING ROOM. Another method that some mills are using to keep picks and pulls down to a reasonable percentage is to employ a drying room to assist in maintaining a firm fabric for seaming.

Users of the Dunn system report that, while the operation is costly, they have cut their costs because of the saving in handling goods and that the quality of their product has been improved.

Strict attention to waste, of course, is always an important way of cutting costs. Mills using 15-den. pirns have cautioned knitters to be careful when they take the wrap off the pirn to prevent extra yarn sloughing off and causing waste.

Better advantage from the use of machinery is also being sought as a move toward more economical operation. In some cases, a third shift has been added to take advantage of more production with little increase in a large portion of fixed overhead expenses. Other mills are experimenting with the use of one knitter and a helper to two machines instead of the regular two experienced knitters.

Some mills that have been a little lax in regard to maintenance of machines have found it necessary to use more rigid inspections to insure top efficiency of machines that require such large investments. Another move being made is to use a cleaning crew to clean machines. In many cases, this practice pays because it helps production and quality.

BETTER LIGHTING was obtained at a lower consumption of power by a change-over from 200-w. incandescent lights to 100-w. fluorescent tubes. Expenses of storing and handling yarn were reduced by the use of the shop-made boxes seen in the center alley.

Steady IMPROVEMENTS

Spark Knitting-Mill Cost Program

HIGHLIGHTS: *Rome Hosiery Mills looks to small, steady improvements to reduce costs—Gas-fired boiler saves 10 to 15% in fuel, 90% in boiler maintenance—Half-hose extraction time reduced 50%—Lubrication costs are down 25%.*

By E. DALTON WHITE
McGraw-Hill Atlanta Bureau

MANY TIMES, management finds it most difficult to evaluate in specific figures the savings effected by minor changes in processes and production. In themselves, these changes may go unnoticed when estimates of over-all results are made. But back of these changes is packed a lot of thought and study by someone down the line who was directly interested and who can point to the end result.

While these changes may have been evolutionary and may have resulted in specific improvement, they also have a broader relationship to total operations, both in respect to efficiency and quality.

Such has been the experience at Rome Hosiery Mills, Rome, Ga., where many small improvements have added to greater operating efficiency, have effected cost savings, and have netted higher-quality products.

As Superintendent R. E. Primm says, "None of the changes and improvements made has been revolutionary; but they have all made the job easier, and we are producing better work."

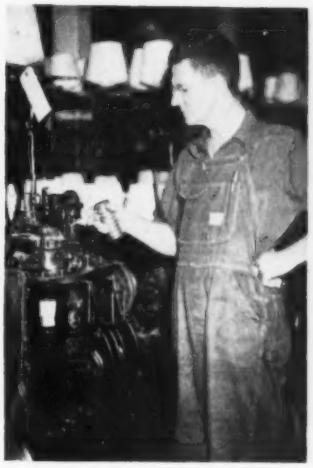
CONVERTED BOILER. Probably the most important improvement made in the mill was the conversion of its boiler from stoker-fired coal to natural gas, with fuel oil as a stand-by. The 190-hp. Union boiler was stripped of its stoker, a new firebox was installed, and the furnace was relined. Automatic controls and recording instruments were added.

As a precaution against a shut-off of the natural-gas supply in extremely cold weather when domestic demand is at its peak, the mill installed an 18,000-gal. fuel-oil tank, had it filled, and made arrangements for replenishment of the supply. Then it forgot about the possibilities of any future coal strike.

That move in fuel supply and modernization of its boiler operations has resulted in substantial savings. Fuel cost is considerably less; and the expenses of freight, coal handling, yard storage, and ash removal and disposal have been eliminated. The new boiler plant practically runs itself, since it is automatically controlled.

Over-all fuel cost has been lowered 10 to 15%, and maintenance expense is down about 90%.

Rome Hosiery Mills generates its own power, and uses steam for dyeing, bleaching, and finishing operations and for plant heating. These demands result in a variable load on the boiler and sometimes cause sudden changes in the boiler load. In such circum-



CLOSE CONTROL OF LUBRICATION and a good system of machine inspection and maintenance have substantially cut the cost of repair parts and machine down time.

BRINE FOR WET FINISHING passes through this control valve and is piped to the machines. Quality of dyeing has been improved and salt cost lowered.

stances, the gas-fired boiler has responded much more quickly than it did when it was coal-fired, and better minimum and maximum pressures are held.

NEW MACHINES. In the finishing department, the mill installed two progressive conveyor-belt finishing machines, two Dennison pinning machines, two National Bundle Tyer Co. "Soxmayer" machines, and two trimming machines. This new equipment has increased production and has increased the weekly earnings of employees.

Improvements in the dyeing-and-bleaching plant came as a quick response to the installation of four new stainless-steel tumbler tubs made by Rome Machinery & Foundry Co. They are an improvement over the open-top tubs in many respects. One important advantage is that there is better heat and steam control. Another is that the new tubs have individual motor drives that make possible better control of the operating conditions.

Results have been reflected in better production, fewer redyes as a result of misruns, and better-quality dyeing.

Another improvement made by the mill was the construction of an automatic brine tank, with piping to each machine through a central control station equipped with recording valves. This installation has resulted in better accuracy and considerable saving in cost of materials, since salt purchases are now made in larger quantities at lower cost per pound.

Installation of a 40-in. Keystone high-speed extractor, with an automatic timer, has resulted in a 50% saving in production time.

With better control over moisture in extraction, the possibilities of "frying" on the boards has been eliminated. Also, proper moisture content in anklets, half hose, and ladies' hose makes for better boarding, netting an increase in production while reducing the possibility of steaming.

QUALITY CONTROL. Institution of a quality-control system in the mixing of dye and bleach chemicals and in color matching has resulted in saving up to 30% of the chemicals formerly used. Dye-formula records are maintained for each color and shade. A considerable saving in time has also been realized because it has been possible to match many shades without making a series of tests.

Changes in the system of lubrication and the standardization of lubricants have brought about an estimated 25% over-all saving on lubrication. Knitting machines are completely overhauled every six to eight months according to a schedule based on operating time. Fixers thoroughly lubricate and inspect machines periodically. Adjustments are made when necessary.

Since the program was installed, there have been fewer machine breakdowns, fewer repair parts needed, and a sizeable saving in needle breakage. To all of this saving has also been added an increase in quality of knitted product.

One of the quickly noticeable improvements made in the mill resulted from a production-control system that has worked very successfully. Not only has production been improved, but there also has been a reduction in the percentage of seconds. Part of the production-control program consists of inventory control. Periodically, all odd lots in inventory are disposed of so that the mill maintains inventory at a minimum.

POWER SAVING. The Rome mill generates its own electric power, and the management is interested in reducing power costs. All of the old-style 18-in. light reflectors equipped with 200-watt incandescent lamps have been removed and modern fluorescent lighting has been installed throughout the mill. The spacing of the 100-watt fluorescent fixtures provides higher foot-candles and better general lighting. At the same time, a considerable saving in power costs has been effected.

Storing and handling of colored yarn always present a problem in a knitting mill where style changes are frequent. To eliminate storage bins and rehandling of yarn to the knitting machines, an all-metal yarn truck was made from ½-in. galvanized pipe. The truck was made long and narrow for ease in handling and maneuvering in the alleys between the knitting machines. All joints were welded and smoothed before the truck was painted.

Since this type of truck has been used, the mill has not experienced any damage to yarn resulting from snags. Savings have been made in both storage space and cost of handling.

Supply of each different color of yarn is closely estimated for each group of machines knitting the same style and pattern. Cones are loaded in the truck and brought direct from storage to the knitting room. The truck then serves as means for both supply and storage of yarn.

Rome Hosiery Mills has not carried out any radical production changes. Rather, it is most receptive to employee suggestions that will result in better working and operating conditions. Emphasis is placed on doing a job better with less manual effort. This philosophy has led to constant improvement and a steady lowering of operating costs.

Modern Equipment and Layout Answer to High WOOLEN-MILL COSTS

HIGHLIGHTS: *Modernization of equipment and plant layout offer only way to reduce high costs—Cases show costs can be cut, production raised —Devaluation of pound intensifies problem.*

By GUSTAV ZELLNIK
Consulting Editor, TEXTILE WORLD

IN THE LAST FEW YEARS, the so-called normal times have been back again. Competition has become keener from day to day. During the war boom and for a short while after, little attention was given to the fact that some day a seller's market would change to a buyer's market. But those manufacturers who were looking ahead and knew the conditions that would prevail under a normal market laid plans to replace out-dated equipment with new production units. Some progressive manufacturers also realized that replacement of old equipment was only a part of their modernization program. Another important move had to be made: streamlining the production process.

In woolen mills, only a few manufacturers undertook streamlining in the correct way—laying out equipment to enable proper flow of the material from one department to the next and then building the walls of the new plant around the machines. By following this method, mills can not only modernize their plants but also eliminate a great deal of manual handling. Many woolen mills with old production equipment went out of business after the lush years because they could not manufacture fabrics under the heavy pressure of the competition. But those who had been looking into the future with the thought of being a step ahead overcame the crisis of the "recession."

Many mills in the last few years have made changes in one or more departments. Some installed conveyor systems to eliminate manual handling; some built additions to their old plants to change the layout of their machines; some threw out a part of their old equipment. Others enlarged the production area to permit streamlining their production process in such a way that unit costs per pound of yarn or per yard of cloth were considerably decreased and brought in line with the higher wage scale of the help.

Mill A

Production based on 3-run yarn
(**Before** equals 100%)

	Blending Department		Carding Department		Spinning Department	
	Before	Now	Before	Now	Before	Now
Number of machines	3 Fearnaught pickers	1 blending unit consisting of 2 Giant pickers working in tandem	12 ring-doffer cards	6 tape-condenser cards	12 mules	18 ring-spinning frames
Number of workers	14 men	10 men	33 men	14 men	36 men	18 girls
Shifts	3	3	3	Two 9 hr. each	3	2
Weekly working hours	120	120	120	90	120	80
Man-hours per week	560	400	1,320	630	1,440	720
Production per hour	1,200 lb.	4,000 lb.	21 lb.	57 lb.		
Increase in production		233 1/3%		170%		
Decrease in man-hours		28 1/3%		48 3/4%		50%

CASE HISTORIES. The accompanying charts show the results achieved in a few cases. In these charts only the actual number of operators appears. Service personnel, such as foremen, second hands, fixers, weighers, burlers, menders, storehouse and shipping help, supervisors, etc., are not included. Nearly the same number of these people were needed in most cases after the modernization.

In Mill A, as shown by the chart, the total number of workers was reduced from 83 to 42. Man-hours were reduced from 3,320 to 1,750, a reduction of 47¼%. In this plant, the reorganization was based on the same production as before. By replacing the three Fearnaught pickers by one high-speed production unit, sufficient space was obtained to have two blends on the floor steadily. Thus it was possible to run a new blend on the mixing picker as soon as the previous blend was finished. The operators of the machine almost never wait for work. In place of an hourly wage, a piece-work rate is now paid. The workers are making more money; and the management is getting a dollar's worth of work for a dollar's pay, so both par-

Mill B

Production based on 2-run yarn
(**Before** equals 100%)

This mill based the reorganization program on an increase of 40%. In other words, the mill has a present capacity of 14,000 lb. of yarn against 10,000 lb. before. Of course, the amount of woven and finished fabrics increased accordingly in yardage.

	Blending		Carding		Spinning		Spooling and warping		Filling winding		Weaving		Finishing	
	Before	Now	Before	Now	Before	Now	Before	Now	Before	Now	Before	Now	Before	Now
Number of machines	4	1 Super Picker	18 ring-doffer cards	16 tape-condenser cards	20 mules	20 ring-spinning frames	20 spoolers 3 warpers	3 high-speed warpers	none	3 12-spindle Schweiters	80 looms	72 looms		
Number of workers	12	4	60	36	60	30	30 plus 6	12 plus 6	none	6	60	24 plus 8	22	10
Shifts	Two 48 hr.	1	3	2	3	3	1½ and 2	2	none	2	3	2	2	1
Weekly working hours	96	40	120	80	120	120	60 plus 80	80	none	80	120	80	80	40
Man-hours per week	576	160	2,400	1,440	2,400	1,200	1,440	720	none	240	2,400	1,280	880	400
Increase production	As mentioned above throughout the mill 40%													
Decrease of man-hours	72 1/4%		33 1/3%		50%		50%				46 2/3%		54 1/2%	

ties are happy. For sample blends, a small Atlas picker was installed; but this machine is also operated by the same people working on the large blending unit.

In the carding department, two 9-hr. shifts necessitate an overtime bonus of 10% for one hour in each shift. If, therefore, man-hours are figured on a basis of paid hours, one has a payroll for 693 man-hours in place of 630 working hours. Therefore the decrease in man-hours would be only 43⅜% in place of 48¾%. But still, a considerable saving has been made by replacing old equipment and by modernization of the plant layout.

MILL B. The chart for Mill B shows that the production was not only increased by 40%, but also that man-hours were decreased by more than 46%. The crew was reduced from 250 to 136 persons. After the reorganization, jack-spooling for the high-speed warpers was entirely eliminated. The mill formerly had 20 girls on the first shift and 10 girls on the second shift. The mill now has three new express warpers in place of the three old dressing frames. Two girl helpers are assigned to each unit on each shift to keep the creel filled with bobbins and to tie broken ends.

Formerly, filling bobbins were made on the mules. Now, a new department has been opened where Whitin-Schweiter filling winders have been installed. These winders are operated by three girls each for two shifts. The mill is not yet synchronized, as

(Continued on page 236)

SUMMARY—Mill B

Objective: Production increase of 40% on basis of 2-run yarn

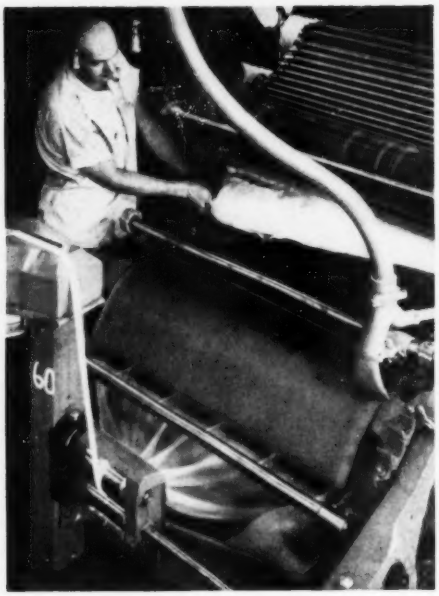
	Before		Now	
	Number of operators	Weekly man-hours	Number of operators	Weekly man-hours
Blending	12	576	4	160
Carding	60	2,400	36	1,440
Spinning	60	2,400	30	1,200
Spooling & warping	36	1,440	18	720
Filling winding	....	....	6	240
Weaving	60	2,400	32	1,280
Finishing	22	880	10	400
Total	250	10,096	136	5,440

Mill C—A carpet mill

(**Before** equals 100%)

Production is based on 1 1/4-run yarn

	Before	Now
Number of machines	14 ring-doffer cards	14 tape-condenser cards
Number of workers	30 men	36 men
Shifts	3	3
Weekly working hours	120	120
Man-hours per week	1,200	1,440
Hourly production	64 lb.	96 lb.
Increase in production		50%
Increase in man-hours		20%



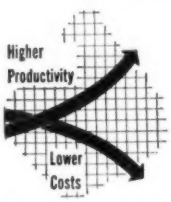
JOB ELEMENTS, time-valued on a simple basis, allow for the setting up of fair work assignments that all can understand.

Actual Timestudy of Card-Tender Job

(1) Task or Job Element	(2) Standard Time (min.) (with stripping)	(3) Frequency 8 hrs. 1 card (with stripping)	(4) Total time 8 hrs. 1 card (with stripping)	(5) Total time 8 hrs. 1 card (with no stripping)
Rack lap	0.42	2	0.84	0.84
Creel lap	0.45	2	0.90	0.90
Strip card	1.02	2	2.04	No strip
Assist strip	1.02	2	2.04	No strip
Assist strip	1.02	2	2.04	No strip
Clean	0.55	2	1.10	1.10
Sweep	0.43	2	0.86	0.86
Oil	1.20	1	1.20	1.20
Remove strips	0.24	3	0.72	0.72
Remove fly	0.65	1	0.65	0.65
Doff cards	0.40	8	3.20	3.20
Piece ends	0.24	8	1.92	1.92
Total time 1 card	—	—	17.51	11.39
Total cards run	—	—	22.	33.
Total minutes work 8 hrs.	—	—	385.22	375.87
Percentage work time	—	—	80.2%	78.3%
Percentage rest time			19.8%	21.7%

SIMPLE Timestudy Methods Give True Job Values

HIGHLIGHTS: *Complication avoided in efficient system of job assignments—Simplified methods eliminate prejudice and distrust—Precise job-element time values and fair work loads quickly determined.*



THERE ARE TWO IMPORTANT effects that stand out prominently whenever the word "timestudy" is mentioned in a gathering of practical mill men. The first and most evident effect is an attitude of skepticism often accompanied by a partly suppressed smile of derision. The second and more audible effect is the large number of openly expressed opinions that most timestudies succeed only in confusing the worker, supervisor, and in many cases, the timestudy man himself.

Both of these attitudes could be prevented by a simple, preliminary explantation of what a timestudy really is, what it aims to accomplish, and how it benefits everybody by a fairer distribution of work. This procedure would insure a full understanding by all parties concerned, from the worker to the department head. It would also promote cheerful, willing cooperation all along the line.

Many of the practical men who question the value of timestudies can give off-hand all the elements of every job under their supervision, the full list of duties on each job, how long it takes to perform each one, and the frequency of performance. Right here they have given the important components of all timestudies. It should be only necessary to show them the relation of all three elements to the whole job and thus convert them to ardent exponents of practical job analysis and work assignments in their departments.

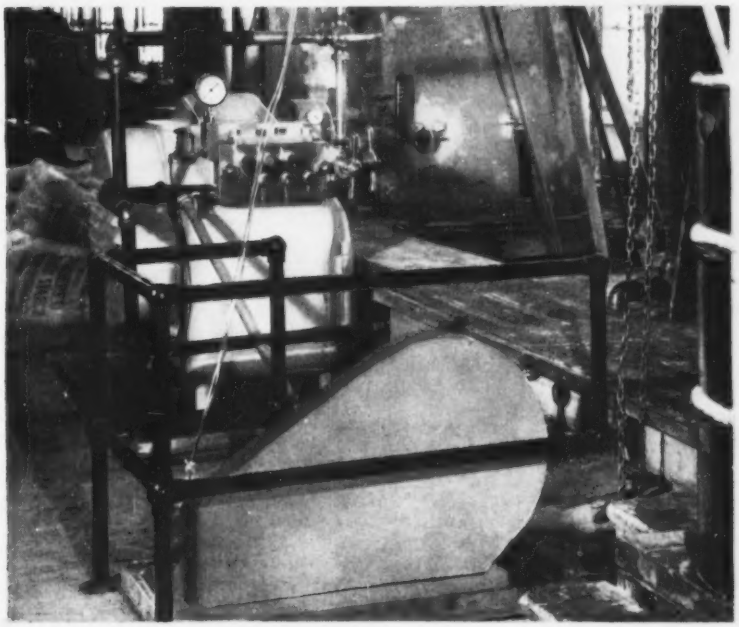
COMPLICATED FORMULAS CONFUSE. Mill discussions have brought forth statements that it is the attempts to make complicated mathematical formulas from a collection of simple values that causes the confusion and general distrust toward the man with the stop-watch and slide rule.

Part of these statements are probably true in many cases. The figures are simple on most jobs, and no involved formulas are required to reduce them to actual simple time values and to apply them directly to the job being studied.

Let us try right here to prove that job analysis can be made simple with no need of objectionable higher mathematics. Take a card-tender's job for example. It is a comparatively simple job, yet it includes twelve different tasks.

LIST INDIVIDUAL TASKS. The first step should be to list the different tasks of the entire job. These are put in Column 1. The task timings put

(*Continued on page 206*)



HOMOGENIZATION

In Warp Sizing

By **JAMES H. KENNEDY, III,** Contributing Editor, *TEXTILE WORLD*

What is homogenization?
Is homogenization new to the textile industry?
What are the advantages of homogenization in slashing?
What has been the actual textile-mill experience with homogenization?
How do the main types of homogenizers work? Who makes them?
What difficulties may be expected with homogenizers?
What are the potential applications of homogenizers in the textile industry?

What Is Homogenization?

HOMOGENIZATION is the action of breaking down particles and distributing these particles throughout a mixture. This reduction in size of relatively large particles to smaller fragments is accomplished by means of violent mixing, grinding, shearing, or a combination of the three actions under pressure. Homogenization affords an opportunity for more exact controlling of viscosity in textile applications such as sizing where previous batch methods often produced non-uniform lots.

Homogenization does not involve any chemical action. The change is purely physical and is merely a subdividing of particles or globules into smaller particles of a definite and uniform size. The homogenizing machines can be adjusted to produce particles of the dimensions required by the particular end use of the resultant mixture.

The homogenizing process consists essentially of forcing a liquid or paste through a restricted mixing zone where forces of shear and turbulence bring about a reduction in the size of the particles in the mixture. The resulting product, because of finer dispersion of its elements, in many cases has physical properties different from the original material.

Is Homogenization New to the Textile Industry?

ALTHOUGH HOMOGENIZATION in its true sense of making a mixture homogenous is not new to the textile industry, the current application to sizing solutions for warp yarns is definitely new. Homogenizers have, however, been used for some time in finishing plants.

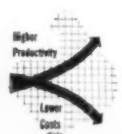
Various mixers and colloid mills have been used for years in the mixing of pigments and colors such as Aridye and Sheridye. One line of such mixing equipment (Homo-Mixers) is manufactured by Eppenbach, Inc., 45-10 Vernon Blvd., Long Island City 1, N. Y. The high-speed mixing and homogenizing units made by Eppenbach are used for the incorporation of pigments into aqueous and oil slurries and emulsions, for the manufacture of basic chemicals and treating agents, for color dispersions used in screen printing, and for dispersions into organic-cellulose derivatives.

Another machine for some time used in the textile industry is the Rietz disintegrator, manufactured by Process Machinery Co., 441 Folsom St., San Francisco, Cal. The disintegrator is used by a large viscose-manufacturing company for the conversion of xanthate into viscose. The machine consists of a centrifugal screen through which a mixture is forced by a severe rubbing, shearing, and hammering action which produces a thorough dispersion of solids in a liquid medium. In textiles, there is at present only the viscose application of this disintegrator, although other applications may be possible.

COLLOID MILLS. There is a close relation between homogenizers used in textile slashing and colloid mills. A colloid mill consists essentially of a stator and of a rotor which revolves at high speed and close clearance within the stator. Any liquid which passes through this narrow space is subjected to a very great force of hydraulic shear which breaks down the particles and produces a homogenous solution. There are several types of colloid mills being used in the textile industry for color dispersions, tallow emulsions, paraffin emulsions, gum dispersions, soaps, and sizings.

A colloid mill may be gravity fed or pump-fed if it is desired to utilize pressure. The action in a colloid mill is brought about by a hydraulic impact caused by a high-speed rotor impinging upon a liquid slurry. Because of the fluid friction in the colloid mill, there is a tendency to increase the temperature of any solution processed by it. For this reason, colloid mills are cooled by water jackets to prevent excessive increases in the temperature of the solution.

Colloid mills now used by the textile industry are manufactured by Eppenbach, Inc., by Chemicolloid Laboratories, Inc., 30 Church Street, New York 7, N. Y., and by Premier Mill Corp., 3334 Genesee Street, Geneva, N. Y.



THIS TEXTILE WORLD REPORT TO MILL MANAGEMENT is particularly appropriate to the Cost-Cutting Theme of the Mill Check-Up Number. The information on savings which have been made should be of particular value to those mills interested in learning more about this new size-preparation technique.

What Are the Advantages of Homogenization in Slashing?

STARCH MIXTURES for slashing have traditionally been prepared by boiling the mixture for a long period, the time depending upon the type of starch and the viscosity required. Boiling causes a thermal breakdown of the starch particles so that they can become as uniform in size as is possible with boiling. Homogenization, however, makes it possible to reduce a sizing solution without boiling. The resultant savings in steam and labor are apparent, but other results of homogenization may well overshadow these factors.

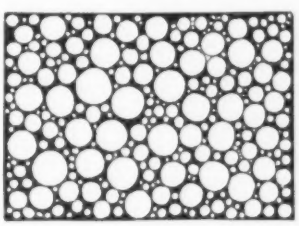
In the homogenizer, the starch particle is broken down through pressure and impact instead of through the action of heat. In addition, homogenized size consists of particles which all have approximately the same size and shape. The size of the particle, which with the temperature governs the viscosity of the sizing solution, can be controlled by the homogenizer settings. Thus, the answer appears to the perennial question of how to control the viscosity of a sizing solution.

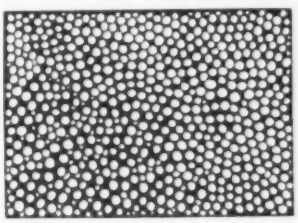
The greatest advantage found in the use of homogenized slashing solutions has been the maintenance of a uniform and stable viscosity. This uniformity in the viscosity has led to more even application of the solution to the yarn and has resulted in increased weaving efficiency. Advantages are also to be gained in the possible use of less starch because the homogenized starch can do more work and can spread itself out more effectively than boiled starch. There is the possibility of using a low grade of starch because of the increased potency of the homogenized solution.

SPEEDS. Slasher speeds can be increased because a uniform coating requires less time to dry than a coating which microscopically shows thick and thin places where irregular lumps of starch adhere to the yarn. If more moisture is desired in the yarn, it is possible to run the slasher at higher speeds. Such speeds were previously impossible because the boiled starch would cause damper yarns to adhere to the drying cylinder. Homogenized warp yarns do not stick to the drying cylinder as in the regular method. If a higher percentage of moisture is left in the yarn, weave-room humidity may be lowered because less humidity is required to maintain moisture content of yarn than is necessary to introduce moisture to the beamed yarn.

Savings have also been reported in total starch consumption per week. Previous practice often caused some size to be wasted because boiled starch did not keep very satisfactorily for extended periods of time. Present practice with homogenized size is to use the size even after it has been standing over the weekend or up to periods of two weeks and more. Homogenized size remains dispersed and does not separate as does boiled starch.

Steam consumption is considerably lower with homogenized sizes, because the new method calls for heating the solution only to the swelling point of the starch (not to a boil) and then putting the solution through the homogenizer. This procedure eliminates the greatest part of the cooking time previously required to break down the starch particles. Lower temperatures in the size box proper also result in a saving in steam consumption.

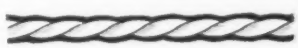




STARCH-SIZE DISPERSIONS

ORDINARY SIZE is said to be made up of non-uniform particles when viewed under a microscope. This condition tends to make viscosity variable because particle size helps to determine viscosity.

HOMOGENIZED SIZE is thought to have a microscopic appearance of uniform particles throughout the solution. Particle size is governed by homogenizer settings. This viscosity is controllable and uniform.



SIZE DEPOSITION ON YARN

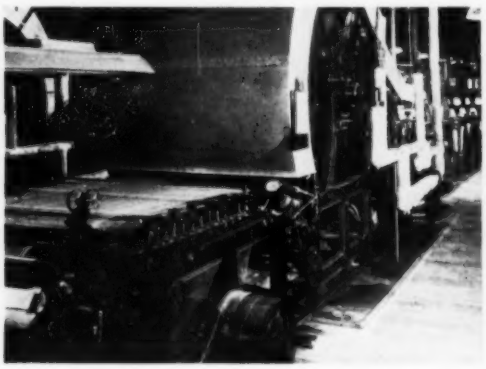
BOILED SIZE is believed to leave irregular lumps of starch on the yarn. The yarn will be only as strong as its weakest point, where starch is thinnest. Drying time must be sufficient to dry largest particles.

HOMOGENIZED SIZE is believed to spread an even coating of starch on the yarn, thus giving greater uniformity of strength and requiring less drying time. It is possible that homogenized starch penetrates better.

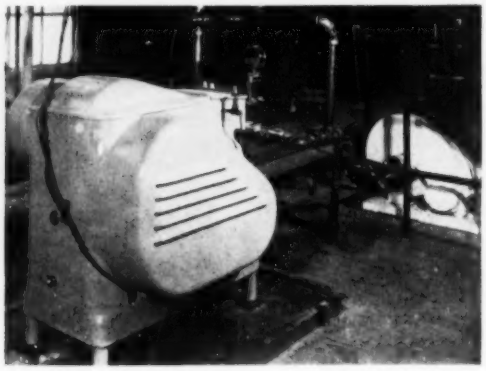
COMPARISON OF SOLUTIONS

CONVENTIONAL SIZE, after standing for a long period of time, separates into a jellied mass at the bottom and a cloudy solution.

HOMOGENIZED SIZE does not separate out as boiled size does. The solution looks the same after standing a week.



***SHEDDING AT THE SPLIT-RODS** is claimed to be 50% less using homogenized size. Viscosity of the size solution is said to be improved considerably.*



***PRE-HEATED STARCH SOLUTION** is moved by pump at right from heating kettle to Gaulin homogenizer and from there to a storage kettle. Intsallation is merely an addition to existing layout.*

Actual Mill Experiences With Homogenizers Show Many Advantages

▸CLUETT-PEABODY CO., N. Grosvenordale, Conn.

The first Gaulin homogenizer in the textile industry was installed at Cluett-Peabody Co. mill over eight months ago. Mill officials are very pleased with the results over this period. Savings in starch, softeners, time, and steam have been reported as shown in the accompanying comparative size data.

The plant superintendent feels that the greatest advantage with homogenized starch is the more uniform viscosity and the close regulation of viscosity attainable.

Size-box temperature has been reduced to 190° F. Shedding on the slasher and at the loom has been reduced 50%. Penetration of size into the yarn is said to be better. Size keeps over the weekend very easily. The homogenizing valve is cleaned weekly to remove foreign matter found in the size ingredients. This cleaning takes about 20 min.

This mill uses 500-psi. pressure to get a size comparable in viscosity to that previously made by boiling. Experiments with higher pressures are being conducted.

Mill officials are satisfied with the savings directly attributable to the Gaulin homogenizer and feel that the machine is a profitable investment.

▸A NEW BEDFORD COTTON MILL

One New Bedford cotton mill has been using a Gaulin homogenizer for six months. The outstanding feature of this installation is the increase in weaving efficiency, which is twice the amount that the management had expected. Weaving efficiency is thought to be improved at least 2%. Besides the saving in starch, estimated at 10%, there is also a great saving in steam consumption due to the elimination of boiling time. The cooking cycle has been reduced from 2½ hr. to ½ hr. Not only does the homogenized size keep over the weekend—one batch was kept over a 17-day vacation period and used with good results at the end of that period.

A great saving on starch was accomplished because, with the old method, 20% more starch had to be added in order that, after standing overnight, the size would be heavy enough to run. Similarly, 30% extra starch had to be added if the size were to be kept over the weekend. With the homogenizer, no extra starch is added for either overnight or weekend keeping of the size.

Since the mill is running only one shift, it uses a size-box temperature of 208° F. with potato starch in order to get started quickly and to obtain prop-

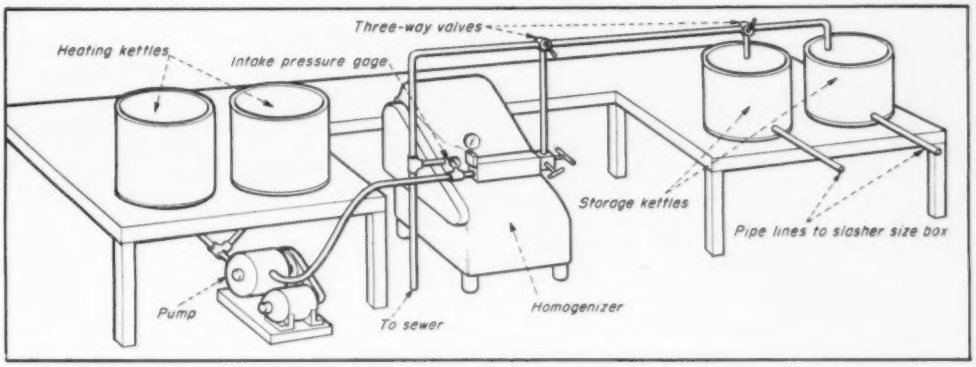
Comparative Size Data

	Boiled Size	Homogenized Size
Potato starch per batch	170 lb.	140 lb.
Softeners and other agents		10% less
Cooking temperatures	212° F.	170° F.
Cooking time	90 min.	11 min.
Cycle time	120 min.	40 min.
Increase in loom efficiency		1 to 2%

***SAVINGS** in starch, steam, and cooking time have been realized at Cluett-Peabody plant since homogenizer has been in operation.*

Summary of Advantages of Homogenizing Warp Size

- Less starch per batch
- More stable viscosity
- Less starch per week
- Lower cooking temperatures
- Elimination of boiling time
- Lower steam consumption
- Lower labor costs
- Increased loom efficiency
- Less shedding at the loom
- Size can be kept over long periods



***TYPICAL HOMOGENIZER INSTALLATION** plan shows simplicity of arrangement. No change in location of heating kettles or storage kettles is usually necessary. (Homogenizer is drawn to much larger scale than kettles for sake of emphasis.)*

er penetration. The mill uses 750-psi. pressure on the homogenizer.

Some mills have experienced difficulty with homogenized size on high-sley goods. At this installation, however, the superintendent stated that after his success with 122 sley, 40s, he would not be afraid to use homogenized size on higher counts and sleys.

The management is quite satisfied that the homogenizer has shown definite savings.

▸A MAINE COTTON MILL

Half as much steam is used for size preparation in a Maine cotton mill with its Gaulin homogenizer as compared to the old method, according to mill officials. Other savings, in starch and labor, were accomplished; but the management did not feel that as great savings could be achieved at every mill because of different operating conditions. No change in weaving efficiency could be attributed to the homogenizer. In general, the same degree of pickup on the yarn, moisture content, and uniformity of viscosity prevail as before. The homogenizer has been in operation at this mill for eight months, and a second unit was recently installed. Steam savings alone were credited with making the purchases profitable.

▸A MASSACHUSETTS COTTON MILL

A Massachusetts cotton mill reports having had difficulty in getting its Gaulin homogenizer to operate successfully. The boss slasher, however, is heartily in agreement with the principles of homogenization; and the mill expects to be using its homogenizer to advantage in a short time. The original run resulted in some soft warps because the operators were not familiar enough with the new method. This installation in the first fine-goods mill to use a homogenizer has the usual problem of adapting a process previously successful on coarse and medium goods to fine work.

The first batch of homogenized size did not keep over a weekend because of an error in making it, but subsequent batches kept satisfactorily. The boss slasher feels that with potato starch the best pressure to use is between 500 and 800 psi.

The previous method called for 90 min. cooking at 212° F. With the homogenizer, this mill made its size in 15 min. at 170° F.

This installation is noteworthy because it indicates that, even when the homogenizer did not operate successfully in the beginning, the mill management is so confident that the idea is essentially good that it is continuing to experiment with the new machine.

▸A NEW BEDFORD COTTON MILL

In a New Bedford cotton mill, a Gaulin homogenizer was tried, and the management became convinced that the unit could not be made to work on high-sley goods. The plant operators claim to have used the recommended method for making homogenized size, but they spoiled a lot of starch and warps in their experimentation. However, this does not appear to be a representative example of the success of homogenizers. The fact that the new method did not work out successfully might be attributed to some reason other than that the principle of homogenization is not applicable to sizing of high-sley goods. An indication that the principle is sound can be found in other installations which are operating successfully.

▸A NEW ENGLAND WORSTED MILL

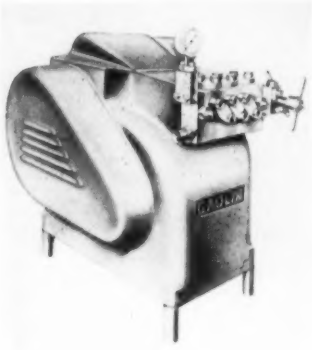
There is only one installation of a Gaulin homogenizer in a worsted mill. Officials were reluctant to give any information on the homogenizer, but stated that it was being used in the preparation of a sizing solution and that there was a definite increase in the uniformity of their viscosity. An increase in weaving efficiency was also admitted. Results obtained with the homogenizer are said to have exceeded by far the highest expectations of these mill officials.

▸A NEW ENGLAND COTTON MILL

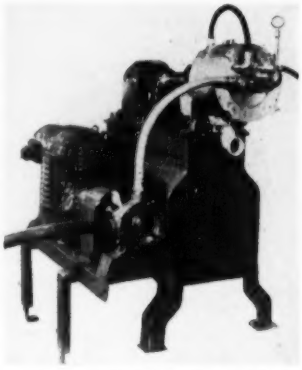
A New England cotton mill that uses pearl starch in warp sizing has found a pressure of 1,500 psi. on their Gaulin homogenizer produces a size comparable to that previously made by boiling. The size is homogenized at 180° F. and is kept at that temperature until reaching the size box, where the temperature is 204° F. Positive savings on steam consumption, starch, and labor have been reported. In addition, the mill claims that warps can carry a higher percentage of moisture and that weaving efficiency has improved to some degree. Less shedding at the splitting rods and at the loom has also been noted.

How the Main Type Homogenizers Work

SEVERAL TYPES of homogenizers currently being made available to the textile industry. One manufacturer, Manton-Gaulin Co., Everett 49, Mass., makes the Gaulin homogenizer which has been installed in many textile mills for use in warp sizing. Another manufacturer has entered the warp-sizing field with a different type of homogenizer which several mills have ordered. This second machine, the Tri-Homo disperser and homogenizer, is made by the Tri-Homo Corp., Salem, Mass.

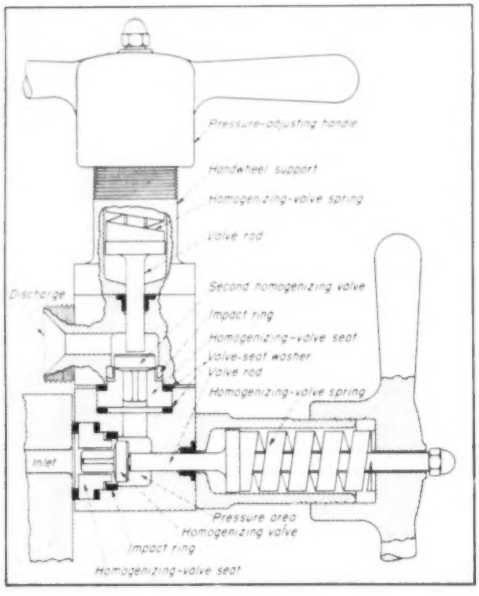


GAULIN HOMOGENIZER features double homogenization in two separate high-pressure areas. A solution of uniform viscosity is thus possible.



TRI-HOMO DISPERSER AND HOMOGENIZER combines colloid-mill principles with pressure in a three-angled rotary-valve action. No high pressures are used.

GAULIN HOMOGENIZER



SOLUTION ENTERS at inlet from pressure cylinder at high pressure and is forced against back side of homogenizing valve. Fine clearances between valve and valve seat start the break-up of the particles. Reciprocating action of the plunger-type pump forces solution against impact ring. Product is then discharged to intermediate pressure area. A second homogenization is accomplished by the second homogenizing valve. Homogenized solution is discharged at atmospheric pressure. Homogenizing valve springs allow homogenizing valves to lift temporarily when oversize particles of foreign matter threaten to damage working parts. Pressure in each pressure area is adjusted with handwheels.

The Gaulin homogenizer utilizes pressure and velocity to break up and distribute particles in solution. High velocity, hydraulic shear, pressure release, and impact cause the particles to be rendered into a very fine state of subdivision. Particles or globules are said to be reduced to one micron and less in diameter.

In this homogenizing process, the reciprocating action of a plunger-type pump forces the product between a valve seat and a valve. Pressure is controlled by a handwheel which restricts the valve gap, and the material is forced through by the pressure which is built up.

The essential parts of the Gaulin machine are shown in the accompanying diagram.

The solution enters under pressure from the pump and is forced towards the under side of the homogenizing valve where it is deflected at high speed between the valve and valve seat against an impact ring. This speed is said to be 35,000 ft. per min. and the pressure to be 3,000 psi. This shattering effect, combined with the pressure forcing the product between the homogenizing valve and valve seat, results in single-stage homogenization.

The product is then discharged from the first-stage homogenizing valve into an area under predetermined pressure between the two valves. This predetermined pressure is controlled by the second-stage valve setting. The solution is then subjected to a second homogenization by a second-stage homogenizing valve. The product is discharged at atmospheric pressure. The release from a high pressure to a lower one causes an explosive reaction which combines with the shattering effect of the impact ring to break down globules into minute particles.

CONTROL. Positive regulation in two pressure areas makes control of viscosity possible and accurately adjustable by simple means. The second-stage valve is also claimed to be a most effective way of preventing clumping and coalescing of the product. A fine breakup may be obtained with a single-stage valve, the manufacturer states, but the particles broken up this way immediately attempt to coalesce. By means of the second homogenizing, the

broken particles are said to be so finely distributed that clumping is eliminated.

The capacity of the Gaulin homogenizer for the textile industry is 200 to 500 gal. per hr. Since the capacity is governed by the pump motor and plunger displacement of the homogenizer, changes in capacity within the given range can be made with little difficulty and at low cost. The next higher size of homogenizer has a range of 650 to 1,250 gal. per hr.

Another feature of the Gaulin homogenizer is the spring loading of the homogenizing valves. When a hard lump of foreign matter reaches the fine clearance between valve and valve seat, the spring permits the valve to lift temporarily, thus preventing damage to the parts or clogging of the valve.

If solutions which contain abrasive materials (such as talc in a textile-finishing size) are to be homogenized, the company recommends its rotary valve to cut down valve wear. The valve is rotated by a small motor to prevent valve pitting and to insure even wear. High pressures tend to wear the valves more quickly, so this fact should be remembered when deciding upon the final conditions of viscosity and temperature required for any application.

Reconditioning of the homogenizer usually consists of regrinding the valves and replacing the pump packing. Bakelite gaskets are furnished with the unit initially and can be replaced by the owner when necessary. Maintenance cost is therefore claimed to be very low.

A Gaulin homogenizer installation of the 200 to 500 gal. per hr. range costs about $4,000.

TRI-HOMO DISPERSER AND HOMOGENIZER

The Tri-Homo disperser and homogenizer combines pressure and rotary action to crush particles in solution and to produce a uniform product. The main feature of this machine is the triple dispersion accomplished by the three angles through which the product must pass at fine clearances.

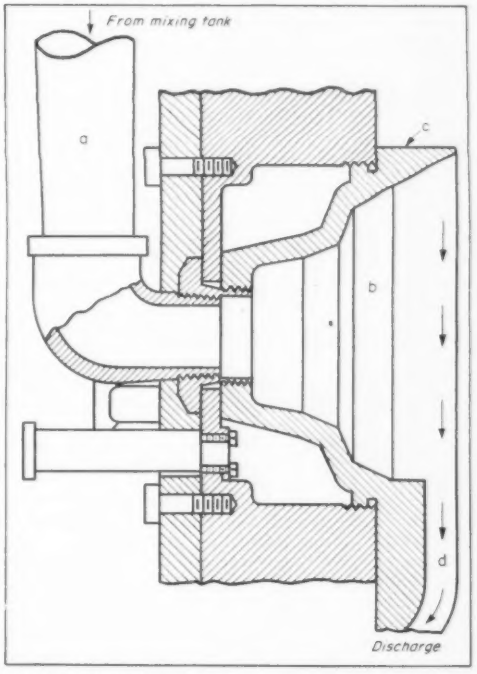
A centrifugal pump unit forces the solution through a triple-angled valve rotating at high speed to give the required breakdown of the particles. The solution enters from the pump and is forced through the three-angle rotary valve. Clearances at the three angles are the same and are controlled by a handwheel. A rotor revolves at high speed within its stator, combining forces of centrifugal shear with forces of pressure in the close clearances of the machine. This procedure allows the pressure to be kept low because centrifugal action replaces the high pressure of other types of homogenizers. Clearances between rotor and stator are controllable within thousandths of an inch, the manufacturer states, and are indicated on a calibrated dial at the top of the unit. Particle size, and therefore product viscosity, is controlled by the setting of the adjustment.

A worm-and-wheel mechanism is designed to insure a positive adjustment and to prevent a setting from any unexpected change during operation. There is, however, no provision for passing foreign matter larger than the setting. Allowance is made for wear, and the adjustment is claimed always to be correct because the mechanism resembles a micrometer gage in action.

Using pressures of 150 to 200 psi., the Tri-Homo machine is said to have long life because of the low pressure made possible by the centrifugal action. Less danger of damage to working parts is also claimed, because of the low pressure. The maker also states that the low pressure requires less horsepower.

Capacity of the Tri-Homo unit for textiles is 600 to 1,500 gal. per hr. Other capacities can be furnished as required. Average life of the machine is estimated at five years. Reconditioning cost is said to be quite low.

A Tri-Homo disperser and homogenizer installation costs approximately $2,500.



***STARCH SOLUTION** enters at a from mixing tank where it has been heated to the starch-swelling point. Force of the centrifugal pump transporting the solution causes it to strike rotor b which revolves at high speed within stator c. Centrifugal action and pressure forces the solution through the narrow space between rotor and stator. Three-angle construction increases turbulence and is said to improve uniformity in particle size. Homogenized solution is discharged at d and pumped to storage kettle.*

See next page for list of other makers of homogenizers for the textile industry

Other Makers of Homogenizers

THERE ARE SEVERAL other manufacturers of true homogenizers and machines that do a somewhat similar job, but only those previously discussed have been used in warp sizing so far. Doubtless the machines of these other manufacturers could also be adapted to slasher-room use. These other manufacturers are listed in the following:

Marco Co., Inc., 34 Third St., Wilmington, Del.; Premier Mill Corp., 3334 Genesee St., Geneva, N. Y.; Eppenbach, Inc., 45-14 Vernon Blvd., Long Island City, N. Y.; Chemicolloid Laboratories, Inc., 48 Whitehall, New York, N. Y.; and C. W. Logeman Co., 633 Bergen St., Brooklyn, N. Y.

What Difficulties Can Be Expected With Homogenizers?

A HOMOGENIZER will not work successfully unless the mill management has enough interest in the potential applications of the machine to wait patiently until the principles are properly applied to its particular installation. No two mills have the same operating conditions. The proper homogenizing pressure, for instance, varies with the type and amount of starch, type and amount of softeners, and the temperatures of both storage kettle and size box.

The homogenizing valve must be kept clean for efficient operation. If pressures start to vary, then a clogged valve may be the cause. Mill practice calls for weekly valve cleaning, a 20-min. job.

Some mills have found it necessary to sift dry starch to remove any foreign matter which might clog the homogenizing valve. Similarly, softeners must be watched for bits of string, wire, or other foreign particles.

Homogenized size reacts differently from boiled size and tends to break down more rapidly under the action of heat. Size-box temperatures, therefore, often must be lowered. If penetration is affected by the lower temperature, then a more viscous size can be made (by lowering homogenizing pressure) and the size-box temperature can be raised to the desired point.

What Are the Potential Applications Of Homogenizers in the Textile Industry?

VIRTUALLY ANY SOLUTION or mixture can be improved by homogenization. In addition to the current applications to warp-sizing solutions discussed here, homogenizers may soon be used in the preparation of other finishing solutions, printing pastes, and perhaps dyestuffs.

Possible uses may be found in synthetic-yarn manufacture, where chemicals must be thoroughly mixed and dispersed for most efficient results. Fiber lubricants such as wool oils and emulsions may provide further applications for homogenization. Present uses for cotton- and worsted-yarn sizing may be expanded to include synthetic staple yarns as well. Similar to the sizing of cotton piece goods, more uses will probably be found for many finishes and coatings on fabrics. Experiments are contemplated for homogenizing gelatin-size solutions used in slashing filament synthetic yarns. Another possible use is in preparing soaking baths.

The potential uses of homogenization in the textile industry are practically limitless, and the field has been only slightly explored to date.

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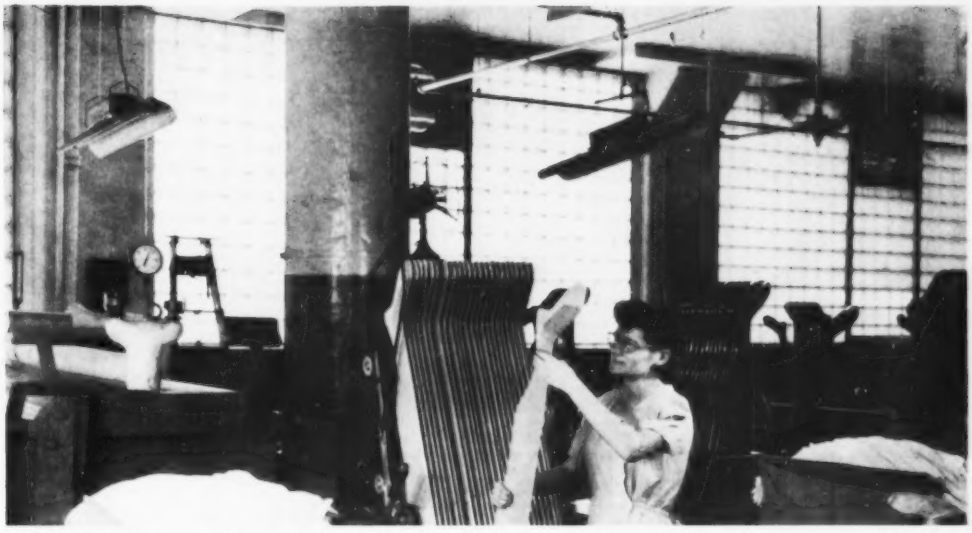
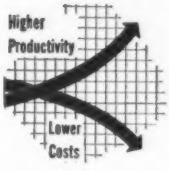


LIGHT-DIRECTIONAL GLASS reflects daylight towards ceiling and thence to working areas of preboarding room. The special blocks are installed in the upper part of each panel.

Knitting-Plant Modernization REDUCES MAINTENANCE

HIGHLIGHTS: *New 30-section knitting machines, air conditioning, and glass blocks feature Apex Hosiery Co. program—Partial-vacuum glass blocks cut painting, reputtying, and maintenance costs.*



By F. ELWOOD STRUVE
Vice President and General Manager
Apex Hosiery Co., Philadelphia, Pa.

PRODUCTION EFFICIENCY means maximum output of quality goods at minimum cost and depends largely today on recognizing and utilizing technological improvements. This fact is very pertinent in highly competitive hosiery knitting. Recognition of this principle accounts for a $4,000,000 modernization program recently completed by the Apex Hosiery Co.

Aware that manufacturing efficiency is a variable rather than a constant factor, Apex management has for many years supported a two-point program of preventive maintenance and of development.

Until fairly recently, the emphasis was on maintenance. The conversion to nylon, interrupted by the war, required extensive modernization of both equipment and plant facilities. Thus, the goal of the program begun after the war was to bring plant efficiency up to and beyond prewar levels.

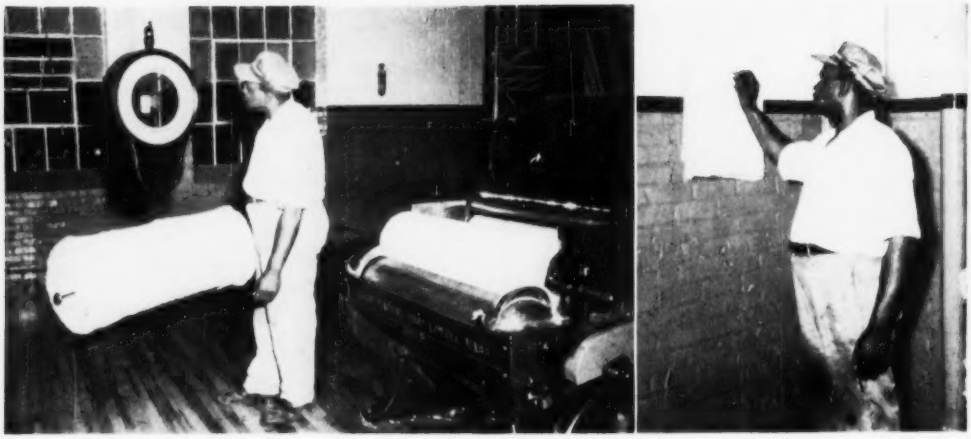
(*Continued on page 202*)

BEFORE

HOSIERY SPOILAGE was caused by dirt seeping through open sash and loose window frames of the upper floors of the building before window modernization.

AFTER

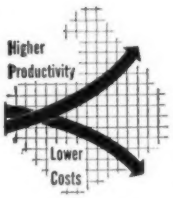
SOLID PANELS of glass block now replace clear-glass windows in the Apex Hosiery Co. plant in Philadelphia. Air-borne dirt from the outside is eliminated.



OLD SCALES: ***REQUIRED GLOBE MILLS PICKER OPERATOR to wait until weight came to rest and indicator stopped, and to walk to tally board and mark down lap with pencil.***

AUTOMATIC SCALE
Watches Picker-Lap Quality

HIGHLIGHTS: *New scale prints lap weights on permanent tape, available only to management, in picker room of Globe Mills—Red light warns operator of rejected lap; green light signals good one—Shutter masks indicator to prevent manipulation of weight.*



By C. MALLARD BOWDEN
Southern Editor, TEXTILE WORLD

WHEN LAPS PRODUCED in the picker room of Globe Mills, Mt. Holly, N. C., are placed on the lap scale, the exact weight is printed automatically on a permanent tape accessible only to management. If the lap is off-weight, a red light lights up to warn the picker operator not to send the lap to the card room. A special mark, "REJ," appears on the tape opposite the weight of the rejected lap. The lap is then stored separately, and the number of stored rejects must always tally with the number of those printed as rejects. Weight of on-standard laps is also recorded along with an "OK." A green light indicates good laps.

Globe Mills new scales, the second installation in the industry of the Model 65-1821 Toledo special lap scale, makes other information available to the management:

1. The total pounds of usable fiber processed by the pickers in any given period.

2. The number of good and rejected laps made each shift, and the total number per day.

3. A check on the performance of each picker.

4. A comparison of the efficiency of picker operators as to their accuracy in holding the pickers to desired weights.

5. The average weight of all usable laps produced for management analysis of their effect upon future combing and spinning operations.

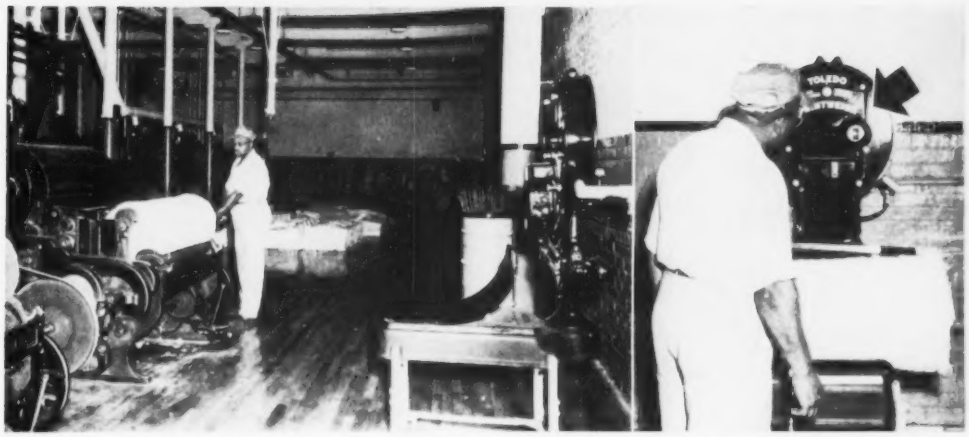
HOW SCALE WORKS. Here is how the Globe Mills picker operator on the second shift, C. M. Gregory, operates the new scale:

Gregory doffs the lap and places it on the scale. He does not stop at the scale because a black shutter has closed over the weight-indicating dial, masking the weight figure until it can be printed on the tape. He turns immediately back to the picker to start it, since the red or green light tells him whether the lap is within the 1-lb. tolerance used by the mill. He starts the picker promptly, on one occasion having started it after a stop of only 5½ sec.

After starting, he turns to the scale again. He can now read the weight which was previously concealed from him and takes the lap off the scale, noting whether the weight trend is light or heavy.

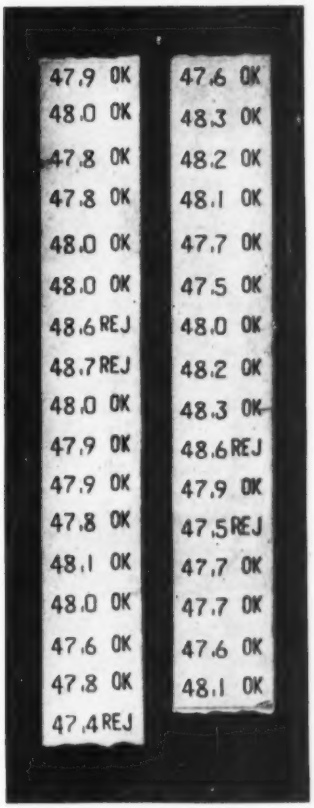
Gregory's instructions are to adjust the evener motion of the picker on all laps that do not weigh exactly 48 lb. The tolerance is ½ lb. either way, light or heavy. But the new scale can be read in tenths of a pound, and Gregory is now able to make finer adjustments on the pickers to control the weights. He therefore adjusts his evener motion unless the lap weighs exactly 48 lb.

(*Continued on page 208*)

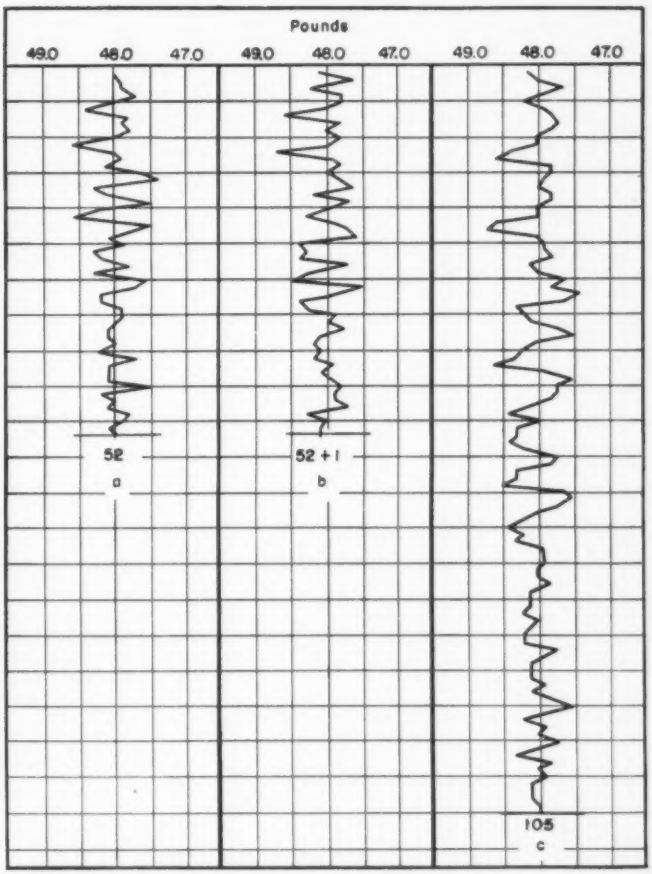


NEW SCALES

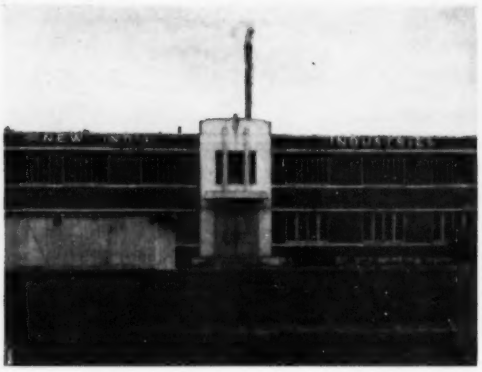
HELP C. M. GREGORY do his work. Lap is placed on scale pan; a green light shows that lap is okay. Shutter (arrow) closes itself so that operator cannot see the actual weight of lap.



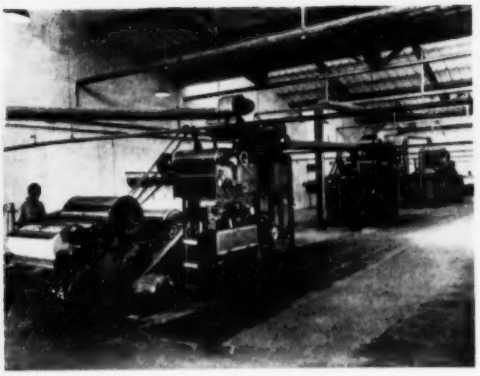
PERMANENT-TAPE RECORD printed by new scale is shown demonstratively, since Globe Mills has fewer rejects per shift than are shown. "OK" means good laps within one-half-pound tolerance; "REJ" means rejected lap.



GRAPHIC ANALYSES can be made from tape information: (a) weights of laps from picker No. 1; (b) weights of laps from picker No. 2; (c) weights of both, the average of which is 48.0 lb., against a standard of 48.0 lb.



$285,000 WORTH of cotton-spinning equipment is housed in this 236x200-ft. building.



COTTON OPENED on a bale breaker and Creighton opener is fed to this picker line. Production is about 330 lb. per hr.

New Cotton Mill—INDIA Style

HIGHLIGHTS: *New cotton spinning mill in Baroda, India, started with 6,300 spindles; will multiply capacity by 4—Modern machinery is used—Mill problems include labor, cotton, and fuel.*

By JOE VAN DENBURG

McGraw-Hill World News, Bombay, India

IN 1945, the New India Industries Ltd., Baroda, India, began operation of its brand-new cotton-spinning mill. It is one of the most modern mills in India.

At the time of this report, it has 6,300 spindles with another 6,300 expected this year. By 1958, the company hopes to have 25,000 spindles in operation. It intends to stop expanding then.

The company started operations in 1943 as a loom-heddle and reed manufacturer—the largest in India. The spinning mill was installed to supply the yarn used in making ply-yarn heddles. One of the hopes of the company is to buy and install U. S.-type machines for manufacturing wire heddles.

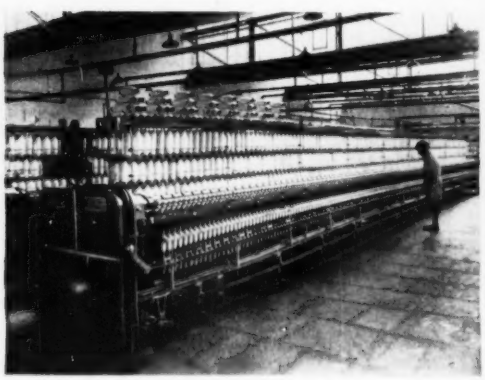
Although the spinning plant is among the most modern in the country, many hurdles lie in the way of most efficient operation.

The greatest problem, the company reports, is labor. Skilled labor is almost unavailable, and there are no facilities for training. It takes six months for the average operator to learn a job.

Ninety percent of the workers cannot read or write. When a literacy class was started at the plant, the response was so poor that it had to be abandoned.

WORKERS' PAY. Workers receive two kinds of payment: (1) wages for the work they do, and (2) a "dearness allowance."

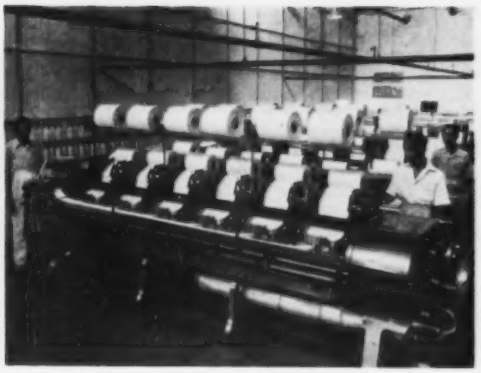
Wage payment is by the amount of equipment tended. Unskilled operators get Rupees 11 to 15 ($3.30 to $4.50) a month. Skilled operators get about Rupees 30 ($9) a month.



***SPINNING** is done on 15 Platt Bros. ring-spinning frames, 420 spindles each. Inclosed individual drives are used.*

***WINDING** facilities include the Universal single-end winder, left, the Brooks & Doxey doubler, right. Each has 100 spindles.*

TWENTY 40-IN. CARDS run at about 16½ lb. per hr. Cotton used is 85% 1⅛-in. Egyptian and Sudan and 15% 15/16-in. Indian.



COMBING is done on five Nasmith six-head, single combers. Laps are prepared on one sliver lapper and one ribbon lapper.

ROVING FRAMES include one slubber, not shown here; two 10-in., 140-spindle intermediates; and five 7-in., 188-spindle speeders.

REELS are turned by hand by women operators. Hanks of reeled yarn are put up in 10-lb. bundles and packed in 400-lb. bales.

The Indian government has set Rupees 30 as the basic wage of the industry; but Baroda is a princely state, and the legislation does not apply to it. However, action to make it apply is expected soon.

In addition to the wage, each worker receives a dearness allowance. At present, this allowance is Rupees 50 ($15) a month. It varies with the cost-of-living index and is intended to compensate for the increase in the cost of living over the prewar level.

A worker can almost "get by" on his dearness allowance. Generally, he has no desire to grow more "wealthy." Consequently, absenteeism runs about 13%.

The plant runs three 7½-hr. shifts a day. Of the 700 workers employed in the spinning mill and heddle- and -reed plant, some 300 live in the 80 one-family tenements in the factory compound. The company charges Rupees 3 (90¢) a month rent in one of these units.

HOUSING. Each unit has two inside rooms and a covered veranda. There is an electric light in each unit and a filtered running-water outlet on each lane in the quarters. Legislation is expected soon to make it compulsory to house all of the workers and their families in such quarters to help relieve a housing shortage that is most acute all over the country.

Other welfare activities include a canteen that serves light meals, tea, and cold drinks at cost; a grain shop where rationed foods may be purchased at cost (saving the worker a trip to an outside shop); a free dispensary that treats some 40 patients a day (mostly for malaria); and a crèche, or child-care center, where the babies of women workers are tended and given free milk.

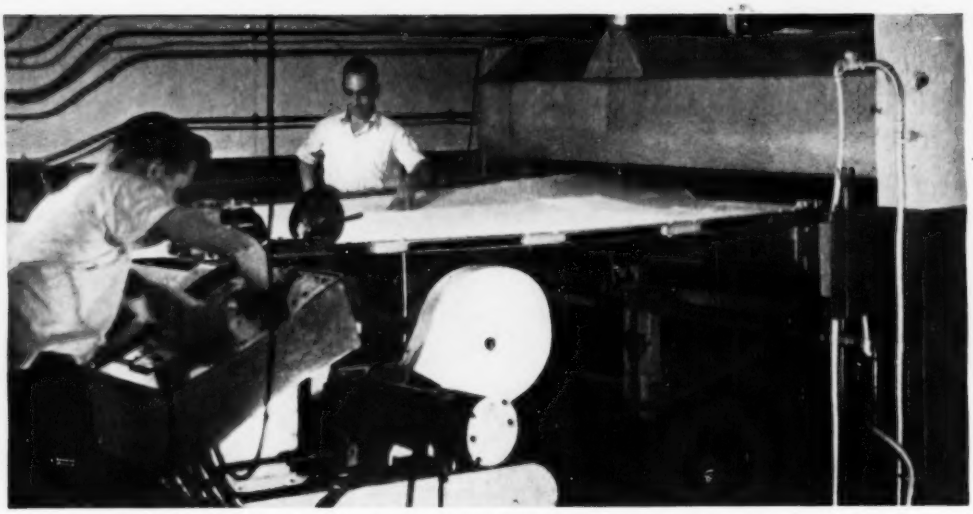
Despite the low educational level of the workers, they participate in a labor-management committee that has successfully ironed out personnel problems and established a good (in India) strike-prevention record.

Supply of cotton has been and is another big problem. The government is lifting many of the controls over supply and price, but the separation of Pakistan from India means that the mill's cotton is having to be imported from Pakistan and Egypt.

Fuel is a major headache. Although India has immense coal reserves, her railway system is so obsolete that deliveries are far below even basic requirements. The plant needs 400 tons a month for full operation. Currently it is getting only 240 tons from the coal fields on the other side of India, under Government allocation.

Cost of coal is roughly Rupees 35 ($10.50) per ton, of which Rupees 13 is the cost at the mine, Rupees 17 the cost of freight to Baroda, Rupees 3 the cost of trucking to the mill, and Rupees 2 the average loss-per-ton in transit.

In order to keep up production, the plant uses wood as a substitute fuel. Wood costs Rupees 40 ($12) per ton. To obtain the same thermal efficiency, the mill has to burn twice as much wood as it would coal, so that the cost of producing steam is twice as great, or Rupees 80 ($24) in relation to a ton of coal at Rupees 35 ($10.50). [Dollars quoted are before devaluation.]



SETTING UNIT for stabilizing nylon tricot fabric utilizes hot gases closely regulated. Man at left is operating controls.

KNIT-NYLON Fabrics Being Set Continuously

HIGHLIGHTS: *Process recently developed uses hot gases—Temperature is high, setting period short—Gain in yardage possible—Laces and light woven fabrics also stabilized—Process being applied to other fibers.*

By A. J. NISBET
President, Triangle Finishing Co.

NYLON YARN as delivered for hosiery or warp knitting has a relatively high residual shrinkage in the range of from 4 to 9%, depending upon prior processing. Setting of the fabric to obtain shape and dimensional stability under practical working steam pressures, and consequent relatively low temperatures, requires that the yarn and fabric be allowed to shrink. Shrinking relieves the strains set up in the yarn during manufacture and processing, and in the fabric by the loop formation during knitting.

In the steam-autoclave or boiling-water method, shrinkage of the yarn and fabric must take place during setting to obtain a measure of stability. With fabric on a roll, the outer layers can shrink more freely than the inner layers, with the result that non-uniform setting is obtained and variable width obtained throughout the piece. Non-uniform penetration of the roll also results in non-uniform treatment, shrinkage, and color acceptance. Because of the difficulty attendant to preparing a perfectly smooth roll when handling knit goods, creases are frequently set into the fabric.

Triangle Finishing Corp. has long suffered with the deficiencies of the process and the righteous complaints of customers. Slightly over a year ago it entered into a development program which has culminated in the "Trianized" nylon process.

REQUIREMENTS. At the start, a number of requirements for a new setting process were clear. Among them were:

1. Dimensions, both length and width of the fabric, must be accurately defined; and while in this condition, the fabric subjected to the setting medium.

2. The fabric must be treated in a single thickness to insure adequate and uniform penetration.

3. The process must be continuous, rather than batch, for continued uniformity.

4. The setting medium must be accurately controlled with respect to temperature and heat transfer to the fabric.

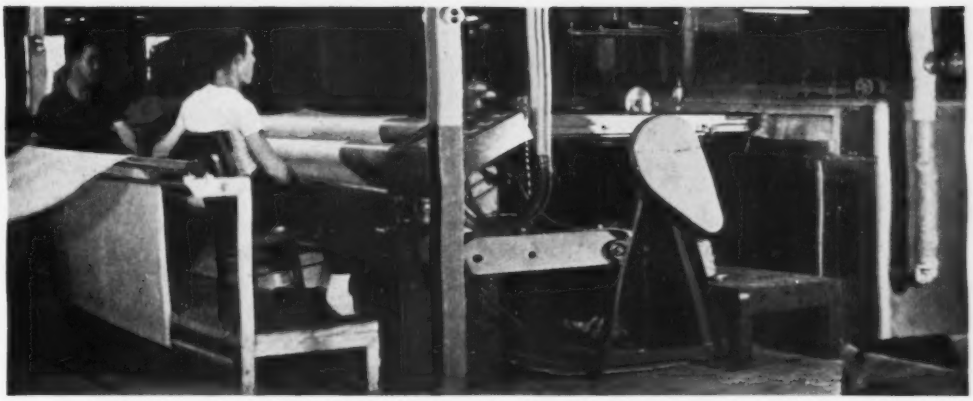
5. The exposure cycle must be short and accurately controlled to secure high production and uniformity.

6. If possible, the process should allow for control of fabric yield and stability without necessarily allowing relaxation or shrinkage during the setting operation.

Following a full year of concerted effort in procuring and assembling or designing and constructing integral parts, Triangle developed a process which to a large extent eliminates the objection to the old process and places nylon knit goods closely akin to woven fabrics with respect to control of properties and uniformity.

To handle the fabric on a continuous single-thickness basis and to define

This article is abstracted from a talk before the American Association of Textile Technologists in New York.



DRESSING is one of last processes in "Trianizing" operation. Shown here is the feed end of an automatic frame.

accurately the length and width dimensions, a pin tenter equipped with automatic tension control, overfeed, and uncurling devices is used. The fabric selvage is automatically fed to the pins. Complete control of fabric dimensions is achieved by varying the relative speed or width of the various units.

High-temperature, high-velocity air is the setting medium, and temperatures just under the melting point of nylon are employed.

Nylon yarn of high residual-shrinkage characteristics may be extended in length as much as 30 to 35%, with an attendant reduction in residual shrinkage, if subjected to temperatures approaching the melting point during processing. The contrary is found at relatively low temperatures. This principle has been found equally applicable when setting knitted fabrics. For example, the yield of a 40-den. 13-filament 2-bar warp-knit jersey construction was increased 9% over that obtained with the beam-set steam-autoclave method with length and width residual shrinkage being 1% or less, representing an approximate 66% reduction over steam-set fabric.

CONTROL. Of greater importance, however, is the fact that the fabric dimensions and physical characteristics can be accurately controlled to insure the uniformity of width, length, and color.

"Trianizing" is a number of processes depending upon the results desired and involves the development of volumes of know-how in all finishing operations. The method is not patented.

Fabrics of mixed or blended fibers, including nylon and cotton, wool, silk, viscose rayon, acetate rayon, and cupra rayon, have been successfully "Trianized." The process may lend itself to the finishing of certain fibers other than nylon or nylon blends. The process is particularly well suited to the finishing of nylon lace, nettings, and similar fabrics. Exceptional pattern definition is obtained with controlled open-width setting.

Research, machine design, and construction are time consuming and costly. No laboratory procedure is suitable for accurately predetermining the production conditions or method for any particular fabric style or construction. Costly large-scale trials are, therefore, necessary to establish proper operating conditions.

COST SAVED. In a number of instances, actual finishing comes free when one considers the increased yield. For example, a 40-den. fabric normally finishing in the range of 4.3 yd. per lb. can be made to finish to about 4.7, which is somewhere in the neighborhood of half a yard increase in yield. And, if the fabric sells for somewhere around the $1.10 a square yard and the finishing charge happens to be about 55¢, the result is that the finishing is free.

Circular-knit nylon can be "Trianized" if it is first split open. It is possible to handle 100% nylon circular knit, both continuous filament and staple. Blends with other fibers have also been set.

Setting is merely reducing shrinkage. Setting also gives wrinkle resistance to a fabric so that it can be washed without distortion. Knit-nylon fabrics are particularly noted for wrinkle resistance.

Open, woven curtains such as ninons and marquisettes can be set successfully, although handling them on a pin tenter gives some trouble. Using combination clip-and-pin plates on tenter should solve the problem.

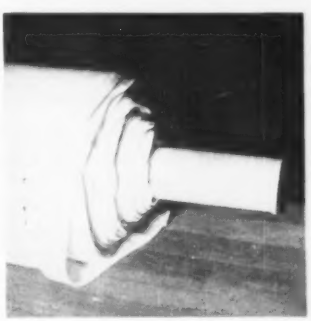
Closely woven nylon fabrics are more difficult to set. The method at Triangle requires that the air flow be through, not along, the fabric in order to get uniformity of heat transfer to the fabric. This uniform temperature must be within a range of ± 2° F. at over 400°. The air flow must also be uniform throughout the machine and throughout the setting cycle.

Shrinkage can be high or low, as desired. Fabrics set to be stable hold their dimensions to 1% when boiled.

Nylon lace fabrics can be set, and at present four are on the market.

Heat treating of Orlon and some of the other new fibers seems to be necessary to dye the fabrics.

Streakiness in dyeing nylon does not seem to be helped or harmed by the process used at Triangle. This difficulty is due to variations in the viscosity of the fiber and is beyond the control of the finisher.



END OF ROLL shows uneven shrinkage of fabric "set" by steam in autoclave. New Triangle process is credited with keeping shrinkage uniform and with a residual of less than 2%.

OIL DELIVERED AGAINST SAMPLE can be quickly checked by color under ultraviolet light.

ULTRAVIOLET LIGHT
Permits Quick Testing

HIGHLIGHTS: *Many fibers can be identified—Wool damage easily detected—Contamination not normally visible often shows up brilliantly—Deliveries can immediately be checked against samples—Some dyes and finishes can be determined.*

By F. WOOD
Leicester College of Technology, Leicester, England

ULTRAVIOLET LIGHT is becoming of increasing use to the textile technologist. He can use it to detect contamination before visible defects or troubles result. He can use it to identify quickly many materials and fibers. He can also use it to check new shipments of many materials against samples or previous shipments.

FIBER IDENTIFICATION

Fiber	Fluorescence
Cotton (raw)	Dull brownish
(bleached)	Bluish white
(mercerized)	Reddish white
Wool (raw)	Yellowish white
(scoured)	Violet white
Silk (raw)	Dirty grey
(degummed)	Violet white duller than wool
Camel hair	Reddish grey brown
Viscose rayon	White with violet shadows
Cuprammonium rayon	Yellowish white
Acetate rayon	Yellowish white with purple shadows
Jute	Bright bluish violet Yellowish shadows
Flax	Bluish white
Ramie	Very pale blue yellowish shadows
Nylon	Bluish white
Vinyon	Yellowish white purple shadows

The techniques in using ultraviolet light in textile mills are still being developed, but here is a summary of progress to date. Ultraviolet light has long been used in making fading and aging tests. It has been used in developing dyes. Such uses are of a different nature from those described here.

The advantages of using ultraviolet light testing in textile mills are manifold. With it, minute differences in the composition of materials are readily shown up. For example, it is often possible to see the various viscose-rayon cakes which have been used to make up a cone of rayon by observing the end of the cone.

The preparations for testing are very simple and enable rapid decisions to be made. Most tests can be carried out without disturbing or affecting the material in any way, and so insure that all the material is available for further testing. A warning note must be given. Ultraviolet-light testing should be regarded mainly as indicative testing, and the results should be confirmed by the more conventional methods of physics and chemistry. Probably the most important use is to indicate the lines along which to concentrate the main investigation.

The technique of using the lamp is very simple. Preferably, the observations should be carried out in a dark room; but if a dark room is not available, quite satisfactory work can be done by working with the lamp in a dimly lighted area or with a curtain around the lamp and specimen.

The lamp should be switched on for five minutes to give it time to attain maximum output. The operator can use this time to become accustomed to the darkness.

Solids should be examined in bulk and then the surface broken. Any

DARK SPOT on fabric sample is oil stain in gray cloth. Stain was not visible to unaided eye but might cause trouble in dyeing or finishing.

MIXED YARN on cone shows up as ring. Variations in one type of yarn can often be seen as shades of a color; different yarns, as different fluorescent colors.

RAPID ULTRAVIOLET TESTING

When ultraviolet light (which is invisible to the human eye) falls on many materials the light is absorbed but in the absorption the material becomes excited and emits visible light. If this visible light disappears when irradiation ceases, the phenomenon is known as fluorescence; but if it continues, it is known as phosphorescence. It is the observation of fluorescent and phosphorescent effects on which ultraviolet-light testing is based.

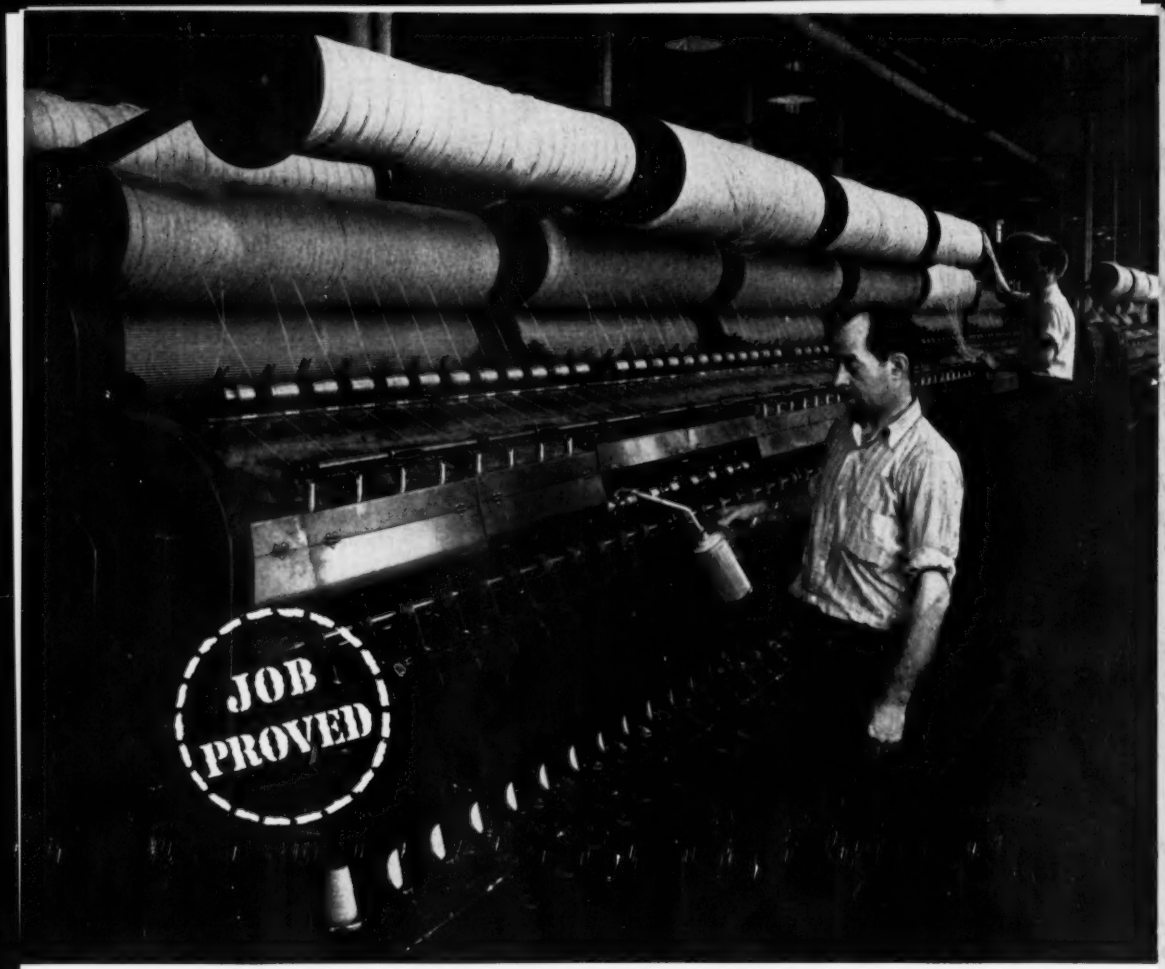
There are many types of lamps producing ultraviolet light available commercially. There are either electric-arc lamps or mercury-discharge tubes. Probably the latter are the most convenient for use in textile laboratories and plants. All lamps are fitted with special screens to filter out the visible light and harmful frequencies. As long as these screens are in position, there is little danger to the majority of operators. Some operators develop skin eruptions even with filtered light, but it is not known whether this is due to some personal allergy or to the combined effect of ultraviolet light and small traces of chemicals which may be present on the skin. Occasionally tests have to be carried out with the filter removed; e.g., accelerated fading and aging tests. In such cases great care should be taken not to expose the skin and particularly the eyes to the direct radiation.

STAIN IDENTIFICATION

Nature of stain	
Paint	No color or dark brown (spotting with acetone gives brilliant greenish yellow rings)
Varnish	No color (spotting with solvent gives greenish yellow rings)
Tar	No color (spotting with solvent gives a blue white brilliant fluorescence)
Coffee	Brilliant blue
Grass	Bright to dark red

OIL IDENTIFICATION

Oil	*Fluorescence*
Unsaturated fatty acid	Blue
Saturated fatty acid	White
Oxidized fatty acid	Pale yellow brown
Saturated hydrocarbon	No fluorescence
Unsaturated hydrocarbon	Strong bluish white
Distilled oleine	Clear violet
Saponified oleine	Buff



CUTS OIL CONSUMPTION 50%

Suntac and Sunvis Oils Last Longer, Lubricate Better, Eliminate Endless Clean-ups and Costly Drip

One of the largest manufacturers of papermaker's felts and woolen mechanical goods found lubrication costs high in his spinning department. Oil leaked from drive-shaft bearings and other parts of the spinning frame, ran too rapidly through ring-lubricating wicks. Flooring became slippery, making an endless chore for the clean-up crew. Because of the high standards of cleanliness throughout the rest of the plant, the manufacturer was eager to eliminate this untidy and hazardous condition.

At the suggestion of a Sun engineer, the management switched to two "Job Proved" Products—Suntac for spinning frame bearings, Sunvis for wick lubrication of spindles and spinning rings. A year has passed since then—plenty of time for comparison with the products previously used. Suntac stays in the bearings longer; Sunvis feeds properly through the wicks, and keeps them softer. Drip, with its nuisance, hazards, and expense, has been practically eliminated. Oil consumption has been reduced as much as 50 per cent.

This performance is typical of "Job Proved" Sun Products in all their varied uses. By giving superior results, they help increase profits. For complete information about Sun textile lubricants and processing oils, call or write your nearest Sun Office.

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WOOL FIBERS damaged by bacteria show up as highly fluorescent spots when examined with a microscope under ultraviolet light.

OIL ON STOCKING suspected of causing faulty dyeing is here being squeezed into filter paper for examination under ultraviolet light.

change in color or fluorescence will be due to the action of light and air. The action of acids and alkalis may then be noted. Liquids can be examined in non-fluorescent glass vessels (quartz tubes) or allowed to trickle down plates of non-fluorescent glass. Frequently, with concentrated solutions, the meniscus only shows fluorescent or color effects; but as the solution becomes more dilute, the ultraviolet light can penetrate below the surface, and the whole solution starts to glow. The effect of acids and alkalis on aqueous solutions may also be observed.

Some of the more specific uses of ultraviolet radiation in textile testing follow.

FIBER IDENTIFICATION. Many types of fibers can be identified, and in many cases the various treatments to which the fiber has been subjected can be ascertained. The accompanying tabulation of fibers and their characteristic fluorescence, headed FIBER IDENTIFICATION, shows how some can be distinguished.

Simple stains can be used to help differentiate between fibers. For instance, eosin 3Y imparts an intense yellow fluorescence to mercerized cotton but has no effect on raw cotton. The staining of cuprammonium and viscose with primuline causes the former to give a golden yellow while the latter gives a bright blue fluorescence. Cotton and linen can be differentiated by treatment with 8-hydroxyquinoline followed by a washing in 5% caustic soda. Cotton becomes violet and linen a striking canary yellow. Viscose stained with thioflavine S becomes a yellowish green, whereas acetate with the same stain gives a blue.

Some mills which warp many different types of yarn regularly use mobile ultraviolet lamps for running over

(Continued on page 218)

Preshrinking Increases Stability of POLYETHYLENE

HIGHLIGHTS: *Less than 2% shrinkage claimed at 165° F.—Process includes heating, decating, and calendering—Preshrinking usually ranges from 6 to 10%.*

A NEW FINISHING TREATMENT which preshrinks polyethylene fabrics to less than 2% residual shrinkage at temperatures up to 165° F. has been developed by American Viscose Corp. The process is believed to remove the last barrier from the widespread use of polyethylene fabrics in automobile seat covers, as well as in upholstery generally, in handbags, luggage, shoes, women's hats, draperies, and various other applications.

The new method of heat stabilizing these fabrics was worked out by the chemical and textile-research departments of American Viscose at Marcus Hook, Pa. It consists of first treating the fabric in a semi-relaxed state with hot water, hot air, or steam. The heating permits shrinkage in both warp and filling.

After shrinkage, the fabric receives a brief steaming on a decating machine to make it more uniform and flexible. When a final smooth surface is required as in seating fabrics, calendering is recommended.

All these operations, preshrinking, decating, and calendering, can be done at reasonable cost on commercial equipment. Abbreviated versions should be satisfactory provided they give the required stability in both warp and filling directions.

Even though uniformity is maintained in quilling and weaving tensions, some puckering may show up when the fabric is preshrunk in a relaxed or semi-relaxed condition. This undesirable effect is easily removed by treating the fabric for a brief period with steam at 212° F. on a decating machine.

Careful control must be exercised in applying the heat-stabilizing treatment to obtain the desired amount of stability and to prevent spoiling the fabric by too much shrinkage. Less than 2% residual shrinkage is obtained normally in automobile-seating fabrics by preshrinking them 6 to 10%, but the exact amount of processing shrinkage is dependent upon the weave and the amount of tension the filament has been subjected to in weaving.

Polyethylene monofilament is supplied on 1-lb. spools which serve as packages satisfactory for warping or quilling. Warping usually is done on the horizontal system. Quilling may be done on most existing quill-winding machines, but great care should be exercised to see that tensions are not excessive and are kept as uniform as possible. Even the highly oriented monofilament is easily stretched under excessive tensions, and non-uniformity in warping and quilling results in tight ends and tight filling bands which show up in uneven widths and cause puckers in finishing. [For processing monofilament fabrics, see TW, Oct. '49, p. 108.]

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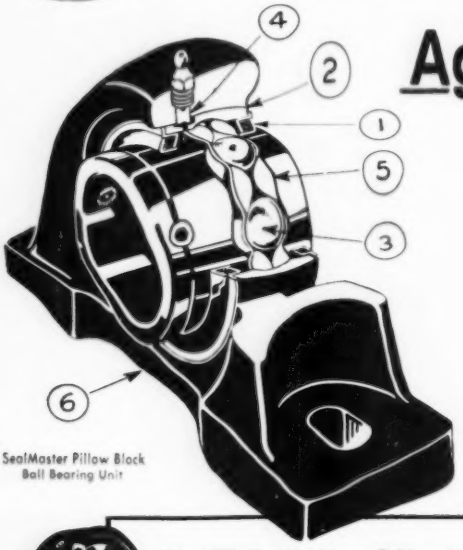
Against LINT and DUST



SealMaster Pillow Block Ball Bearing Unit

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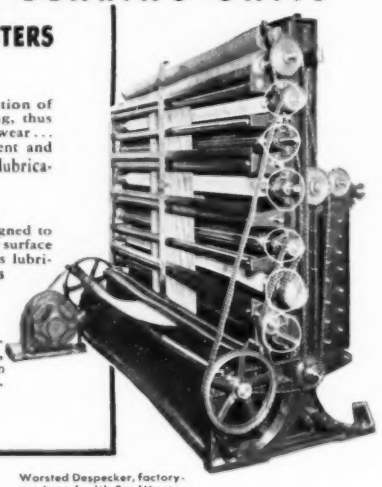
6. **HOUSING DESIGN!** SealMasters cast housings combine rigid, one-piece construction with smooth, streamlined appearance.



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THE PICKER EVENER MOTION is usually the first thing checked when thick and thin places appear in laps.

DRIVING AND IDLER PULLEYS and belts should be inspected daily by the oiler as he oils the bearings.

PICKER DOFFERS should be checked weekly for setting and for the condition of doffer spikes or leather.

PICKER MAINTENANCE

Is Key to Quality Laps

HIGHLIGHTS: *Cotton-picker maintenance should begin with prevention; overhauler is the key man—A complete check every three months, constant inspection by fixers, and lapmeter tests spark the preventive-maintenance program—Attention to details can prevent or quickly correct thick and thin places, ragged selvages, etc.*

By ROBERT H. PHARR
Assistant Superintendent, Mandeville Mills

MORE AND MORE MILLS are finding that the key to quality lies in the picker room. If the laps are incorrectly made, there is no other process that can remedy the defects; instead, each process tends to magnify them.

There are many factors that affect quality of laps. Some of these factors are the type of machinery used and the machinery set-up; quality of help available to run the machinery; and, most important of all, proper maintenance of the machinery.

Maintenance can never be a hit-or-miss proposition. It must be as regular as clockwork if proper benefits are to be derived from it. Schedules must be set up and strictly adhered to all along the line if the program is to succeed.

The key men in any maintenance program are the overhaulers and section hands. The overhaulers should be allowed to do only complete overhauling jobs based on a written schedule kept by the department supervisor. Adequate time should be allowed the overhaulers so that a thorough overhauling may be given the machine on each round.

OVERHAULING SCHEDULE. A satisfactory program in one mill with 20 pickers is as follows: One picker is kept in process of overhauling at all times, the remaining pickers being able to keep up production. Two pickers a week are worked over by the overhauler and his two helpers, and the cycle is repeated every three months.

Even if no repairs are necessary after three months of running, the moving parts need a good cleaning and resetting. If a mill is running three shifts, the machinery should be divided between section hands on each shift, and they should be made responsible for maintenance work on the assigned machinery between regular overhauling periods. Section hands should be on the lookout for possible causes of bad work at all times.

Just how a maintenance program ties in with quality can be seen by a look at some of the more common defects in laps and a determination of how a proper maintenance program can eliminate them.

The most common lap defect is thick and thin places. This defect will show up immediately on a lap tester even though the whole lap weighs correctly. A lap may have as high as 10% average variation and still weigh correctly on the scales.

EVENER MOTION. The first thing that comes to mind when thick and thin places in a lap are found is the evener motion. Evener belts should be checked daily by section hands to see that they are correctly adjusted, that they are not twisted, and that no belt dressing is put on them. Fulcrum points on eveners should be sprayed weekly with graphite to guard against sticking eveners. Overhaulers should adjust eveners each time they overhaul

A partial view of new Butterworth "Bullet" Padder frames in early stages of assembly at Butterworth plant. Inset shows tanks for "Bullet" Padders prior to assembly.

What! An Assembly Line for Padders?

Not exactly an assembly line . . . But, the growing demand for the new Butterworth "Bullet" Padder has prompted Butterworth to manufacture the new Padder in quantity for stock. Finishing plant operators have discovered that these Padders are more *flexible*, more *interchangeable* and more *basic* than any padders now in use!

Look at the advantages:

(1) Rolls are interchangeable from 12" to 20" in dia.
(2) Pressures can be varied from zero to 15 tons.
(3) Design makes tearing out of frames unnecessary.
(4) Can be used on rayon, cotton or wool.

Substantial savings in labor and production time can now be realized. For example, it is now possible to convert a 4-ton Butterworth "Bullet" Padder into a 15-ton padder without tearing out an entire frame, or without loss of operational time. In making a conversion, only rolls have to be changed; basic parts of the machine remain the same.

The new Butterworth "Bullet" Padders have a streamlined, bullet-shaped appearance, compact in design, extremely functional in operation. Available in two models: 2-roll for light or heavy duty, and the 3-roll for heavy duty only. Get all the details on these new machines today.

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PICKER SCREENS should be inspected daily when the cover is raised and the screen and beaters have been cleaned.

a picker so that the belt normally runs in the center of the cones and does not have over 2 or 3 in. play during the running of a lap.

Another place to check for the cause of thick and thin places is the driving and idler pulleys on aprons in hoppers. The section hand should check pulleys daily as he oils. Overhaulers should replace any gears, shafts, or pulleys that are badly worn.

Doffers on hopper aprons should be checked weekly by section hands to determine if the settings are correct or whether new spikes or leathers are needed to maintain an even feed.

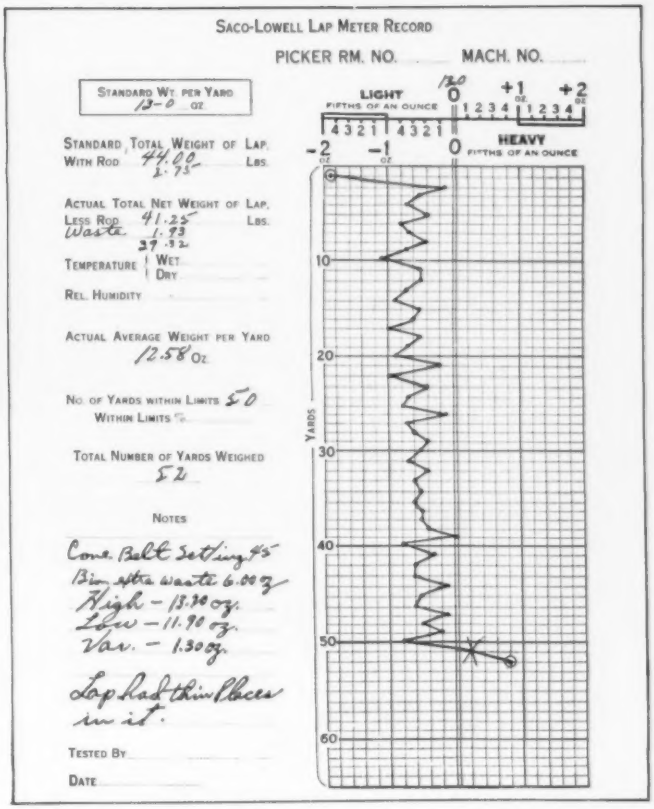
Screens should be checked daily by section hands and replaced if found to have holes in them or to be badly bent. This check can best be made while the machine is stopped off for picking of screens and beaters.

SPLIT LAPS. Split laps are another common defect that can cause trouble in processing farther down the line. Lap splitting is not so much a function of improper humidity as it is of improper processing.

Overhaulers should set dampers so that the bulk of the cotton will be thrown against the top screen. Also, they should be sure that the blades of fans are properly tightened on the spiders and not burned or bent. Split-lap preventers should be checked by overhaulers to make sure they are set up from the calender rolls but still have enough pressure properly to mark the lap. Section hands should check these points at least once a week and repair or replace any parts that are not operating correctly.

Laps with ragged selvages can also cause excessive variation in the fin-

(Continued on page 216)



LAPMETER CHARTS, showing light and heavy places in the lap, indicate the need for corrective steps on the picker.

Maintenance Responsibility

Operator

The operator is in the best position to see that the picker is producing good laps. He should be responsible for seeing that:

1. Cotton is feeding in a continuous, even flow.
2. Evener belts are set so that they run correctly.
3. Loggerheads and racks are level.
4. Clutch is functioning properly.
5. Scales are properly set.
6. Knock-off is working correctly.

Fixer

The fixer's responsibility should be as much to guard against breakdowns as to fix them. Points he should keep in mind include:

1. Bearings. Make certain that open bearings take oil and hold it and that ball bearings are quiet and cool.
2. Beaters. Check cleanliness and condition of all beaters frequently.
3. Screens. Check the condition of screens and leather and the damper settings.
4. Grid bars. See that grid bars are set properly and that the edges of the bars are in good condition.
5. Eveners. Watch the number of set-back laps from each picker. If it is above normal, check the eveners.
6. Knock-off. Check the knock-off mechanism if lap-weight variation cannot be corrected by the scales or eveners.
7. Aprons. Maintain the proper adjustments and see that all slats are in good condition.
8. Gears. Be on the alert for worn or improperly set gears.
9. Fans. Correct or replace a worn or noisy fan at once.
10. Other points. See that doors, covers, safety sleeves and locks, etc., are in good condition and are working at all times.

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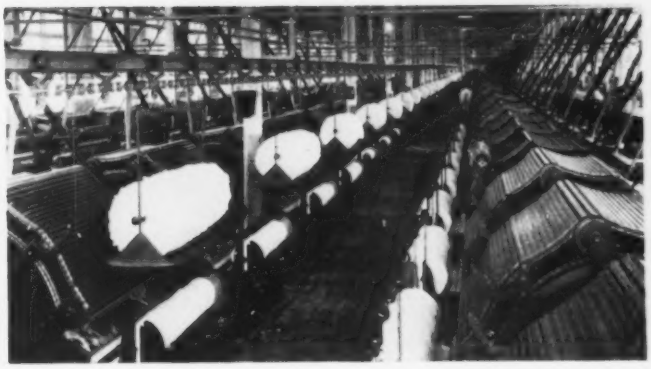
CHEMICALS INDISPENSABLE TO INDUSTRY AND AGRICULTURE

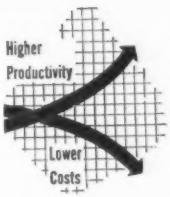
BALE TIERING to roof height with a fork truck saves both space and labor.



LAP HANDLING by a trolley-chain conveyor provides both automatic transportation and storage.

MATERIALS HANDLING
Needs Individual Engineering

HIGHLIGHTS: *Dozen different types of equipment are useful—About 40% of textile manufacturing costs are for handling—Dollar savings can be 40 to 50% more than usually estimated—Proper engineering of application is essential.*



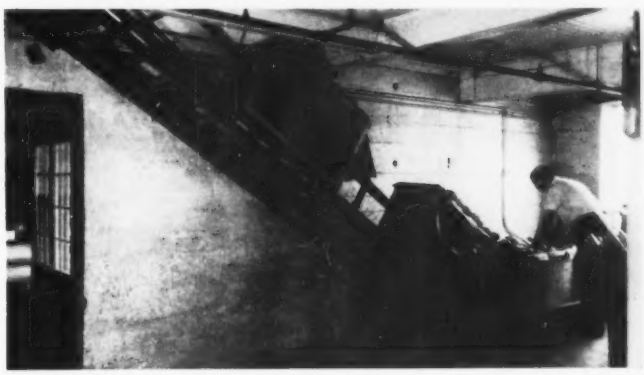
By S. R. BROOKSHIRE
Engineering Sales Co., Charlotte, N. C.

MODERN METHODS of mechanical materials handling are important in the textile industry, since approximately 40% of the manufacturing costs are costs of handling. It has been estimated that each ton of finished cloth represents 20 tons of material moved during the manufacturing and finishing processes, from the raw cotton to the finished goods. The costs of the finished goods are, therefore, in direct ratio to the cost of handling through manufacturing processes, storage, and distribution.

Handling increases the costs of goods but adds nothing to their value. It is always open season for hunting ways and means of cutting manufacturing costs by reducing the costs of handling materials.

When figuring the cost of manual handling, do not overlook the hidden costs. These hidden costs to the company are in federal old-age benefits, unemployment tax, workmen's compensation, insurance, employer's contributions to pension funds, paid vacations, over-time, non-productive time, supervision, payroll bookkeeping costs, etc. Cost accountants say that these hidden costs in old-style manual methods of materials handling frequently increase the payroll costs by as much as 40 to 50%.

Purchase of mechanized handling equipment can sometimes be justified on the basis of safety. Safety codes are becoming more and more stringent, and mechanical lifting and movement can eliminate many labor hazards. Improper materials-handling practices cause one out of every four



YARN HANDLING in cases between floors can be done by an inclined push-bar conveyor. Conveyor can be motor-driven if subsequent process is upstairs.

Abstracted for quick reading from speech given before the Textile Section of the National Safety Council in Chicago.

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LOOM BEAMS in sheeting mill are handled by tramrail, to permit narrow aisles, save floor space

industrial accidents, the cost of which runs into thousands of lives and millions of dollars annually.

There are many types of mechanical materials-handling equipment, just as there are many diversified applications or needs. The success of each depends upon correct analysis and proper and careful engineering application, whether it be a hand truck or a complicated conveyor. Sometimes there are several ways of doing a job. The problem is to find the best way, considering both costs and results to be expected.

Very often, a single plant will find uses for a dozen or more different types of handling equipment, such as floor trucks, hand lift trucks, portable elevators, electric trucks, cranes, tramrail systems, conveyors, chutes, etc. Each should be integrated into a general plan in order to achieve a smoother flow of materials, increased output, lower manufacturing costs, and a better safety record.

WHERE TO START. The logical place to start is in the warehouse, by considering the receiving and storage of raw cotton, wool, or synthetic fiber, all of which are both bulky and heavy. If the warehouse units are single-story with high ceilings (and such are more adaptable to materials handling), there is the problem of both transportation and tiering.

Three solutions suggest themselves. The first would be the use of two-wheel hand trucks and portable (hand or electric) elevators or stackers, which require a great deal of hand labor, but still less than manual stacking.

A second solution would be overhead track and hoists or conveyors, which has the disadvantage of being a fixed system and is usually difficult to justify as an investment because the operation is irregular and often infrequent.

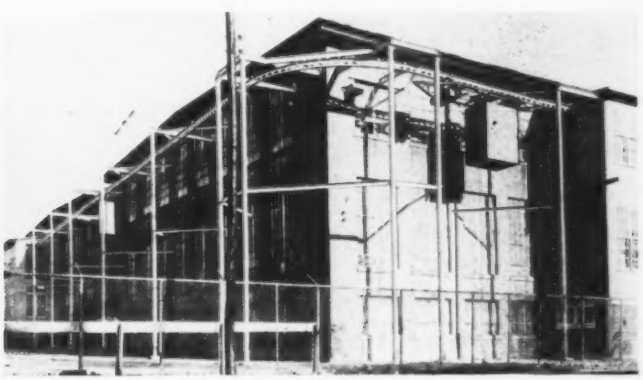
A third—and usually best, provided floors are substantial—is the adoption of power trucks. Tractors with trains of trailers can be employed if the haul is long, or ramps are involved. Telescoping high-lift fork trucks can be used for tiering bales without pallets.

This third solution has another advantage. When not required for handling raw stock, the power-truck equipment can be used for handling starches, dyes, finished goods, etc., around the plant. The fork truck, which handles with equal facility unit loads of boxes, bags, bales, or barrels, is the most flexible single piece of materials-handling equipment on the market; and there is hardly a textile plant that cannot use at least one of them to advantage.

The next step in manufacturing sequence from the warehouse, for the mill doing raw-stock dyeing, is the dye house. Here, in the modern mill, motor-driven tramrail cranes have supplanted the old I-beam hand-move cranes.

(*Continued on page 214*)

***AUTOMATIC CARRIER** takes rolls of cloth to floor above. Special jack skids are used.*



***CARRIER** with rolls of cloth is here shown traveling outside the building to the cloth room at the other end of the building.*

THIS IS A DYEING STORY ABOUT KNITTING YARN

It's worth telling over and over again. Let's start at the beginning.

The raw cotton purchased by CROSS is one grade only . . . Strict Middling. It is processed by exclusive CROSS methods under the most perfect conditions to insure absolute uniformity. CROSS does these things to top quality cotton to make the finest quality double-carded and combed cotton knitting yarns that modern methods and long experience can produce.

From spinning to dyeing, quality is maintained all the way because CROSS dyeing experts take over. With adequate dye kettle capacity, CROSS dyers produce direct shades, developed shades, vat shades, naphthol shades, and bleached . . . in units of 700 pounds (350 pound lots in limited amounts).

Write today for color cards.

Used by Knitters of Polo Shirts, Infants' and Children's Wear and Women's Underwear

CROSS COTTON MILLS CO. MARION, N.C.

SINGLE and PLY - BLEACHED or DYED - ON CONES

COTTON MILLS COMPANY

MARION, N. C.

DOUBLE CARDED AND COMBED KNITTING YARNS

REPRESENTATIVES

Industrial Yarn Co. 351 Broadway New York 13, N. Y.	**Carl L. Miller & Sons** Utica, N. Y.	**Causey Bros.** Southeastern Bldg. Greensboro, N. C.	**I. I. Davis** 250 S. 13th St. Philadelphia, Pa.	**Joseph Klumpp Co.** 407 Slater Trust Bldg. 210 Main St. Pawtucket, R. I.	**David F. Swain & Co,** 222 W. Adams St. Chicago 6, Ill.

NEW CAMPUS Opens At Philadelphia Textile Institute

HIGHLIGHTS: *Main building a million-dollar structure—Library also being constructed—Gift made to equip dye laboratory—Future plans for auditorium-gymnasium.*

THE NEW MILLION-DOLLAR main building of the Philadelphia Textile Institute was opened to receive students last month. The building was made possible through the PTI Foundation, headed by Col. Willard D. Brown, president of Continental Mills, Inc. To date the foundation has raised a million and a half for the institute.

In the main building is a dye laboratory which is being equipped using $80,000 of a $120,000 gift from the Scholler Foundation, Philadelphia. A 4,200 sq. ft. library is being built with a $50,000 contribution from the Edgar and Emily Hesslein Fund, Inc. Library and main building were designed by George M. Ewing and constructed by Lauter Construction Co.

The new building is constructed of reinforced concrete, faced with colonial brick, cast stone, and marble. The building is two stories in the front and three stores in the rear, to take advantage of the sloping ground. Fluorescent lighting is used throughout the building, and it is completely fireproof.

Asphalt and acoustical tile are used extensively in the lobby and corridors, while the main lobby is decorated with Vermont and Georgia marble. The lobby is to be used for textile-fabric displays.

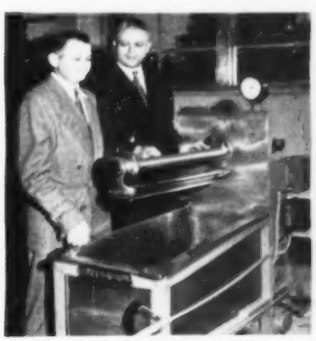
The physical-testing laboratory on the second floor is air-conditioned so that the delicate scientific instruments will retain their accuracy. A cafeteria and recreation room are included in the building, along with lounges for men and women.

An innovation is the use of green-glass blackboards throughout the building. Yellow chalk is used on these boards for maximum visibility.

The foundation plans to raise additional funds under its development program, which is headed by Charles W. Carvin, president of Charles W. Carvin Co., New York, and an alumnus of the institute.

Included in the building plans is the construction of dormitory facilities and an auditorium-gymnasium. In addition to the building plans, an endowment fund and money for increase in faculty salaries will also be provided. The estimated cost of completing the development program is approximately $2,000,000, bringing the investment in the new campus to well over $3,000,000.

Director of the School is Bertrand W. Hayward, while Richard S. Cox is dean.



NEW DYEING MACHINE in PTI dye laboratory is being shown by Bertrand W. Hayward, right, director of the institute, to C. W. Bendigo, editor of TEXTILE WORLD.

RING-SPUN WOOLEN YARN is being examined at the new PTI school by (l. to r.) Theodore B. Hayward, of Swift and Co., Inc., and vice president of the PTI Foundation; Willard D. Brown, president of Continental Mills, Inc., and also president of the foundation; and Rinaldo A. Lukens, of Continental Mills, Inc., and chairman of the PTI Board of Governors.

NO MORE *TIPPY* WOOL

with

ANTHOMINE*

on the job!

IN ALL WOOL DYEING OPERATIONS *ANTHOMINE* INCREASES THE AFFINITY OF WOOL FIBRES FOR DYESTUFFS.

THIS RESULTS IN LEVEL SHADES WHEN DYEING STOCK, YARN OR PIECE GOODS.

TIPPY AND BLENDED WOOLS ARE DYED A SOLID SHADE BY ADDING *ANTHOMINE* TO THE DYE BATH.

Mills throughout the country use* ANTHOMINE *for:

- Even dyeing
- Brighter, fuller shades
- Quicker, better exhaustion of dyebath
- Softer, more pleasing "hand"
- Reduced processing time

Send for Technical Service Bulletin #203-100.2 for complete information, including how to use ANTHOMINE for Top and Yarn Dyeing, Pressure or Package Dyeing, Leveling Unevenly Dyed Yarn or Shady Pieces, Dyeing Metallized Colors, etc.

Arkansas Co. INC.

Manufacturers of Industrial Chemicals for Over 40 Years

NEWARK, NEW JERSEY

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Pointers FOR SUPERVISORS

RULES OF CONDUCT

Necessary for Efficient Operation

HIGHLIGHTS: *Whole group must be "on the ball"—Both supervisory force and top management have certain principles and duties to follow faithfully.*

By MACON P. MILLER
Director of Industrial and Public Relations, Fieldcrest Mills

DO YOU REMEMBER back during the war when the supervisor found it necessary to put up with anything to keep men on the job? It wasn't because people were "ornery"; they were restless and uncertain. The grass looked greener in the other field. Money was plentiful, and jobs were easy to get. With such conditions, disciplinary measures were difficult to enforce, and as a result supervisors slipped into an attitude of "there is nothing I can do about it."

The times have changed. Our margin of profit is not so wide as it used to be; and today to have an efficient operation, it is necessary to have the whole group "on the ball." To bring this condition about, supervisors should review their rules of conduct. It has been said that "discipline is the training that makes punishment unnecessary." Smart management will use the training approach to disciplinary measures and revive a training program that will bring about the desired effect.

In handling disciplinary matters, certain principles may be used as a guide by the supervisor.

1. He must be fair and impartial. Nothing breaks down morale more quickly than partiality for an employee or for a group of employees.

2. He must strive for uniformity of penalty for the same offenses while at the same time considering each case on its own merits. In dealing with human beings, there are often extenuating circumstances.

3. He must be willing to give the employee an opportunity to state his side of the case. In some situations, such a statement may change the supervisor's interpretation of the matter.

4. He must assure the employee of an opportunity to have his case reviewed through the regular formal or informal grievance procedure. All rules work more smoothly if the employee knows he has recourse to a higher authority.

To make rules of conduct work successfully in a plant, top management has certain duties to perform.

1. A discipline policy should be formulated and reduced to writing.

2. The proposed policy should be reviewed by the entire supervisory force to "get the bugs out of it."

3. Management should make certain that the working force understands the rules, and particularly how the penalties are to be enforced.

4. If a written warning system is used, copies of all warnings and penalties should clear through one office, preferably the industrial-relations office, in order that management may get a check on how the system is being administered.

5. Full responsibility for carrying out the policy should be placed on the line organization. The industrial-relations men should be used only in matters of interpretation to secure uniformity of procedure.

One of the pitfalls of enforcement of rules is snap judgment. When a decision has to be made which involves a man's job or job status, the supervisor should get all the facts, weigh the evidence, and try to arrive at an unbiased decision. He should feel free to call on any of the service departments in the mill, and then if not satisfied that he is right, check his judgment with his superior.

Most supervisors realize that there is always considerable resistance to change in a shop or mill. The wise supervisor will attempt to sell the new rules (which are really old rules restated) to the employees. Using the rules in the form of a crusade will only tear down the thing we are trying to build—efficient operation.

MANAGEMENT SHOULD MAKE CERTAIN that the working force understands the rules, and particularly how the penalties are to be enforced.

He's a particularly vicious thief. He preys on machines in plants of all kinds all over the country—slowing production, slashing profits, collecting an enormous toll from industry.

You think he's not at work in *your* plant? It will pay you to be suspicious enough to find out *for sure*—for his ways are devious.

For example . . . here are some places to look.

Are the grease guns in your plant still being filled by old-time "paddle" methods—wasting time, wasting grease, risking contamination and dirt? You've caught a suspect!

You can save 3¾ man hours for every 100 lbs of grease and eliminate contamination risks.

Are you lubricating machines by "hand and muscle"—the old, time-wasting, hit-or-miss method? Here's evidence of thievery!

You can save as much as 23.9 man hours in applying each 100 lbs. of grease!

What about the cost of "down-time"—when a bearing burns, a gear fails, precision is "off" because of faulty or inadequate lubrication? Thievery again!

You can eliminate human error—make sure that each lubrication point gets the correct grease, in an accurately measured amount and at the proper time.

Have you any suspicions that there is a profit thief loose in your plant? Is he hiding behind the mask of faulty, old-time, costly lubrication methods—robbing you just as surely as though he "tapped the till"?

There's one proven way to stop this loss.

An Alemite representative can tell you in 10 minutes how Alemite Methods will simplify and better organize your lubrication procedures. He can show you how mechanized lubrication from barrel-to-bearing will increase your production and profits.

Telephone your Alemite Distributor. Or write to Alemite, 1888 Diversey Parkway, Chicago 14, Illinois.

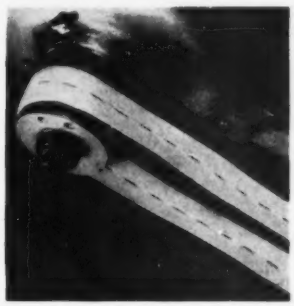
ALEMITE

MODERN LUBRICATION METHODS THAT CUT PRODUCTION COSTS

Another Product of STEWART WARNER

TEXTILE Equipment NEWS

New Tape Construction Permits Cool Running, Reduces Slippage



NON-FRAYING EDGES are said to have been achieved in this new tape by weaving nylon filling under tension, causing filling yarns to be buried. Buttonholes permit air to pass.

Cool running and low stretch are promised by two new spindle tapes of a construction which permits passage of air through the tape and which have nylon filling. The new tapes were developed by Russell Mfg. Co., and will be marketed by Atkinson, Haserick & Co., 211 Congress St., Boston 6, Mass.

The buttonhole construction of the tape for twisters and for worsted mills permits air to pass freely through the tape in both directions—out as the tape approaches the whorl or cylinder, in as its leaves. The result has been cool-running tapes, cooler spindle bearings, and elimination of slippage, the company states.

Tests indicated that belt slippage was principally caused by trapped air. The trapped air, in turn, generates heat and causes the tape to burn out and to waste power.

The tape recommended for spinning frames has no pronounced buttonhole, but has a more open weave in the center which permits passage of air, accomplishing the same objectives as the buttonholes in the heavier tape.

Lengthwise stability is gained in both tapes by using continuous-filament-nylon filling. This smooth filling yarn is said to provide low warp crimp, high strength, and low internal friction. Every filling pick is compared by the manufacturer to "a pin in a hinge—the smoother it is, the easier it works."

Use of nylon filling also produces a tape that is frayproof, the manufacturer states. The nylon is woven into the fabric under tension; and because of its elastic nature, the filling contracts, burying itself within the tape.

Although experience is said to show that the tape runs on dead center at all times, if it were to rub on the flange of the pulley, the filling would be protected from wear. A fabric with the filling so protected cannot fray, the company states, thus eliminating defective yarn produced by short-lived spindle banding.

For toughness, flexibility, and softness, the tape warp yarn is said to be made of the finest-quality cotton with long fibers and good character. The softness and flexibility are believed to cause the tape to hug the pulley under all conditions and to make the lapped joint barely noticeable in operation.

Tests in many mills throughout the country are reported to have proved the design features of the new tape to be sound.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-136.

AUTOMATIC LACQUERING of weaving bobbins is performed with new attachment on quill polisher.

Relacquering Attachment Added to Quill Polisher

Quills are relacquered automatically by a new attachment recently developed by J. M. Nash Co., Milwaukee, Wis. The relacquering attachment is added to the standard Nash No. 79 automatic quill polisher for refinishing loom bobbins, and may be easily removed when not in use. The Nash No. 79 is designed to clean, buff, and polish weaving bobbins. These operations are accomplished automatically at production rates up to 40 bobbins per minute.

The new relacquering attachment puts a smooth, hard coat of quick-drying lacquer on the surface of the cleaned bobbin. The operation is fully automatic and requires little attention from the operator beyond supplying sufficient lacquer to the applicator. Brushes, applicator pads, and polishing accessories have long life and cost little to replace. Superior results are claimed with substantial savings in cost over present non-automatic methods of cleaning and refinishing.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-154.

Continuous Dolly Washer Economizes on Water

A new and improved multi-dolly continuous washer is said to offer many advantages in ease of operation, economy of water, simplified automatic synchronization, accessibility, and labor saving. The washer has been developed by Riggs & Lombard, Inc., Lowell, Mass.

Some of the improvements over existing types are:

1. Stainless-steel construction throughout. (Old-style iron frame with wood lining is available at lower cost.)
2. A.c.-d.c. drive with rheostat speed control; no side shaft.
3. Positive counter current flow, with constant uniform predetermined liquor level in each tub.
4. New slope of tub for smoother operation and fewer stops for rethreading.
5. Folding or plaiting cleat rolls provided for smoother operation and uniform treatment.
6. Flow of water and liquor stops

automatically when machine stops, effecting increased hot-water savings.

7. Cloth fully protected against damage by electric stop motions.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-142.

NYLON AND ROLLER BEARINGS and a large oil reservoir are main features of the new throwing spindle.

Roller-Bearing Spindle Is Moderate In Cost

A new, moderate-cost roller-bearing spindle for throwing machines has been introduced by Easton & Burnham Machine Co., Central Falls, R. I. This spindle features a self-aligning molded-nylon footstep bearing which can be replaced quickly without removing the spindle from the frame. In many months of continuous running under various test conditions, these nylon bearings have not failed, nor has there been any measurable wear, the manufacturer states.

There is no bolster case inside the spindle base between the upper and lower bearings. Because of this feature, an unusually large oil reservoir is provided, resulting in a much longer period of time between oilings.

This high-speed spindle is being furnished for all makes of throwing equipment, including that used to twist directly from pirns.

The same basic bearing design of this roller-bearing spindle is being used in cotton and worsted plants for both complete new spindle installations and for conversions of present spindles. In conversions, use is made of the old whorls and doffer-latch assemblies. New bases, roller and nylon bearings, and spindle blades are supplied at approximately half the cost of a complete new spindle.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-148.

Added Screen Widens Infrared Drying Uses

A new type of gas infrared heat generator, the Una-Ray, is designed to widen greatly the use of direct gas infrared heat. The new unit can be safely and economically applied to such operations as nylon setting, print drying, resin polymerization and curing, drying, etc., according to the manufacturer, Carbomatic Corp., 24–81 47th St., Long Island City, N. Y.

The main feature of this new generator is complete screening to insure safety and freedom from scorching and localized overheating. By virtue of the catalytic action of the products of combustion passing over the screen, the generator oxidizes all carbon monoxide to carbon dioxide.

An air tube has been added which blows the products of combustion in a direct line with the travel of the cloth, and at the same time allows the infrared rays to strike the cloth at right angles. Thus are used both the full effect of the infrared and of the products of combustion, which together increase the heating efficiency beyond that in previous models.

In resin polymerization and resin curing, particularly in melamine and urea resins, operating tests indicate that the generator abolishes the formation of peroxides within the resin, thereby increasing the water resistance and flexibility of these resins.

Tests are also said to show that cloth may be saturated with high vapor-pressure, low-flash-point solvents such as xylol, benzine, acetone, and alcohol and dried over the Una-Ray generator without fear of ignition. The generators also inhibit color migration and gas fading, and, at the same time, efficiently set the color.

A marked improvement in hand and quality is said to be obtained when rayons, either acetate or viscose, are dried or heat treated with the Una-Ray generators. A dry cloth can be placed upon the top screen of the burner without fear of scorching. When a wet cloth is placed on top of the burner, steam of evaporation becomes immediately evident; and the cloth is dried in a matter of seconds.

This new development has now opened up the way for new applications previously considered impractical for gas infrared or other types of direct-heat applications.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-144.

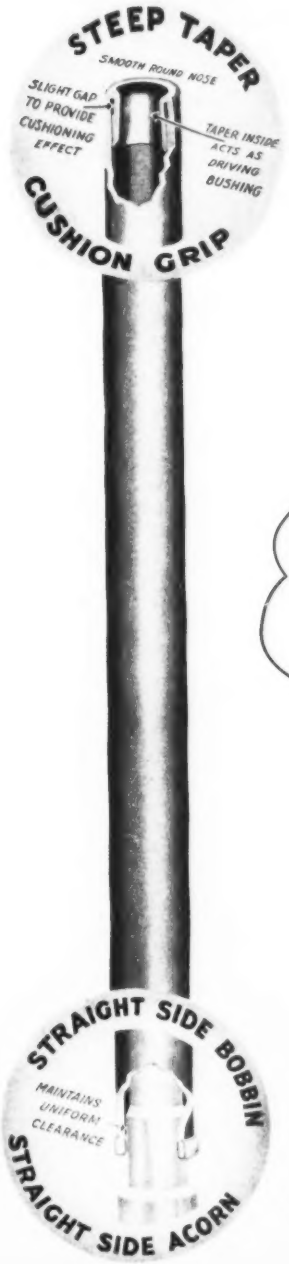
Laboratory Printing Can Be Lower in Cost

A new laboratory print machine of all-steel construction is being manufactured by Liberty Machine Co., Paterson, N. J. Cost of the new unit is said to be from $150 to $200 less than machines previously available.

The machine has a Neoprene-covered cylinder. A Servo-Tek fingertip speed-control unit provides variable speed within a 20-to-1 ratio. Torque

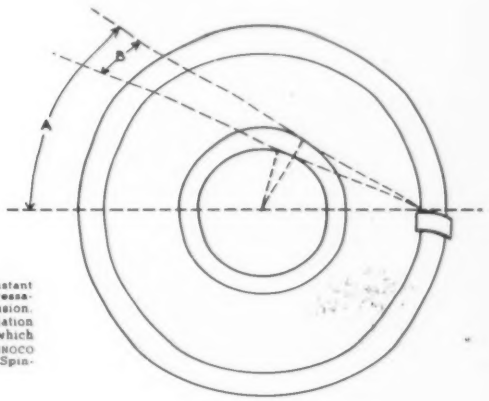
SCORCHING IS PREVENTED in drying and curing operations by a screen over the infrared heat unit.

For UNIFORM Yarn Tension



SONOCO
Straight-Side

WARP SPINNING BOBBIN



Angle A shows the constant angle of yarn pull necessary for uniform yarn tension. Angle B shows the variation in angle of yarn pull which is eliminated by the SONOCO Straight Side Warp Spinning Bobbin.

Yarn tension varies with angle of yarn pull. Variable tension means non-uniformity in yarn with more ends down. The *straight-side* principle of the SONOCO Warp Spinning Bobbin eliminates variable tension in yarn pull—and also permits top drive contact, easier doffing, and larger yarn package.

Available in all standard lengths and outside diameters to meet various traverse lengths and ring diameters.

SONOCO PRODUCTS COMPANY

BRANTFORD ONT | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

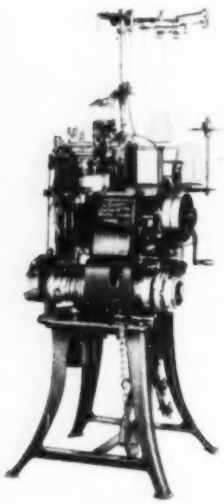
 For more information, write direct or use Reader Service post card.

is said to be smooth and constant over the entire speed range.

The print machine is designed for either laboratory or production use. Standard roller width is 12 in. Copper rolls are removeable and interchangeable.

Price with Servo-Tek drive is $700; without drive, $500.

To request further information, please use the card on page C at the Reader-Service dept.; refer to T-103.



ALMOST UNLIMITED PATTERN for men's and boys' socks are within the capabilities of this moderate-cost machine.

Men's Hosiery Knitter Is Low Cost, Versatile

A new, low-priced, high-production, simply operated knitting machine, known as the "Vari-Pattern," has been developed by The Hemphill Co., Pawtucket, R. I. The machine produces men's and boys' half-hose with elastic tops. The patterning scope is said to encompass almost unlimited designs. The new machine, Model HTF-49, is engineered for easy maintenance to result in low costs and substantial profits.

The model will be constructed in the three standard sizes, 3¼ in., 3½ in., and 3¾ in.; and in the four popular gages, 18, 24, 36, and 48.

The machine knits cotton, wool, rayon, or nylon. The above-mentioned sizes will manufacture boys' hose from size 7 up to men's hose size 13. Yarn counts from 5s to 24s cotton or equivalent counts can be used. The normal production of the machine is up to seven dozen in 8 hr. on men's size 11 produced on a 3½-in. 36-gage model.

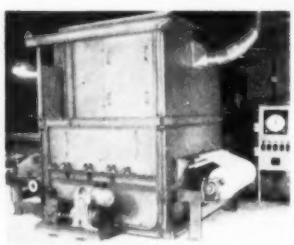
It is claimed that one knitter can operate an unusually large battery with ease. The pattern scope of the machine can easily be calculated and quickly varied. Patterns are controlled by disks which can be changed quickly and easily at very little cost. This feature results in a greatly enlarged scope for pattern design without fear of high changeover costs. Patterns can use eight different colors.

Individual and independent control of the pattern on each of the two feeds is a feature of the machine. There is a total of nine yarn fingers on the machine. There are seven on the main or regular feed; one controls the heel and toe, one controls the top; and the horizontal striper controls five levers, one of which can be utilized for a tipped heel and toe in a different color or a reinforced heel and toe. One yarn finger is used for an elastic yarn and one yarn finger is for the auxiliary feed.

The elastic top has a rubber control for knitting elastic every course—or every other course and a single edge with four rounds of elastic in the first courses.

There is a 48-move pattern drum at each feed with double move control; 96 moves can be utilized in the patterning.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-145.



HEAT-SETTING MACHINE uses no rolls to set fabrics.

Heated Air Used To Set Nylon Fabric

A nylon heat-setting machine which uses hot air instead of heated rolls has been developed by Van Vlaanderen Machine Co., Paterson, N. J.

In the new machine, thermostatically controlled hot air is directed through the fabric. The heated air is said to bring fibers up to the setting temperature almost instantaneously as fabric enters the machine. No heated rolls are used. The company states that the inside temperature of the machine is constant and uniform, and that overheating is impossible.

Initial and operating cost of the new machine will be considerably less than conventional machines, the company states.

Delivery is almost immediate.

To request further information, please use the card on page C of the Reader-Service dept; refer to T-157.

Pinking Shears Will Not Pull Nylon Fabrics

PINKING SHEARS with cutlery-steel blades mounted separately from the base blade except at ends are said not to pull threads or chew fabrics. The shears can be used to cut sheerest nylons, the manufacturer states, without fabric damage. Because of the construction, the shears can be dropped without injury. Weight is 3 oz. Manufacturer is Philbeck Corp., 39 Cortland St., New York 7, N. Y.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-156.

EASY PACKING, SHIPPING, AND STORING of textile materials are permitted with the use of Cargotainers constructed of strong steel-wire mesh.

Collapsible Containers Save Handling Operations

Many advantages in handling, shipping, and storing materials are claimed for the collapsible Cargotainers recently introduced by Pittsburgh Steel Products Co., Pittsburgh, Pa. The Cargotainer pallets are constructed of strong steelwire mesh and are designed for strength, service, and accessibility. These essential features make them

"TOPS" FOR IDENTIFICATION AND PROTECTION

KAUMAGRAPH DRY TRANSFERS

Consider the helmet on this 'husky'. It IDENTIFIES him as a pigskin-toter and PROTECTS him in the rough and tumble tussles of competition for a touchdown.

Today, Kaumagraph Dry Transfers are providing this dual essential on a wide, ever growing variety of textile products . . . with instantly recognized identification that carries the ball for quality and value . . . with protective marking that helps 'hold that line' to customer preference . . . with that quick, attractive reproduction of trademark or name that calls the signals for sales . . . touchdown success that is yours with the quick 'down touch' of a heated iron on a Kaumagraph Dry Transfer.

Get on your mark for sales now. Call a Kaumagraph man today.

- Dry Transfers
- Prestomark Labels
- Embossed Seals
- Transfer Irons
- Stamping Inks
- Lithography for Box Wraps
- Labels • Displays
- Booklets and Folders

Real savings in time and money are made in the many mills where Kaumagraph Dry Transfer marking is used in conjunction with some processing operations. Let's help determine its practicality for you.

KAUMAGRAPH

Identification Headquarters Since 1902

KAUMAGRAPH COMPANY, WILMINGTON 99, DELAWARE

EMPIRE STATE BLDG., NEW YORK CITY • *Representatives in Principal Textile Centers of the World*

readily adaptable to mechanized handling, and to rail, motor, and water shipments.

Nearly every type of load can be handled with Cargotainers. They are especially useful in handling textile materials either in process or finished products. The many necessary manual handling, weighing, trucking, checking and storage operations are performed in less time at a reduction in cost.

The pallet-like design permits easy, economical storage. When stacked, the strong, braced side panels of the Cargotainer support weight of the units above and prevent damage to the contents. The collapsible feature makes the containers easier to return for reloading and reduces the storage space for empties to about one-fourth that required for non-collapsible types of containers.

The range of standard sizes furnished make it possible to select the correct size best suited to any particular material or product.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-153.

Balling Head Available For W&S Pin Drafter

A new balling-head mechanism which extends the versatility of the Warner & Swasey pin drafter is now in production by Warner & Swasey Co., 5701 Carnegie Ave., Cleveland 3, Ohio. The head has been under test in actual mill production for 18 months, the company states.

The dual balling unit will enable a single Warner & Swasey machine to replace two gilling operations following combing in combing operations where commercial ball top is the final product.

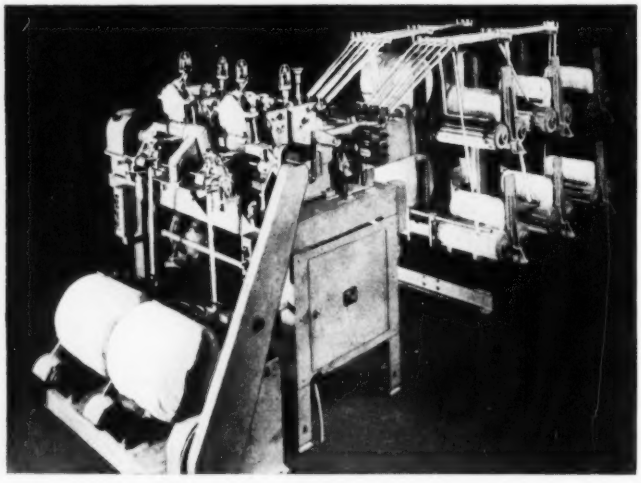
The use of ball top in yarn mills operating on the Bradford system will enable two pin-drafting operations to accomplish the work now done by three pin drafters, or five conventional gilling and drafting machines. The balling head will also make the pin drafter more readily applicable to French-system operations, and to the new Saco-Lowell worsted-yarn system [TW, Oct. '48, p. 155].

The balling unit winds tight, hard balls 14 in. by 15¼ in. in diameter, without draft. The balls weigh approximately 21 lb. In comparison with storage in 15 x 36-in. cans, about twice the weight of yarn is thus accommodated in the equivalent amount of space.

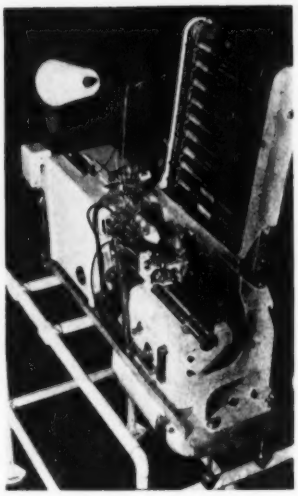
Winding a top of 135 gr. per yd., over 1,000 yd. can be contained in a solid ball, which need not be compressed for shipment. At the same time, balls wound on the new delivery are reported to have excellent stripping qualities, and sliver as light as 50 gr. per yd. has been successfully handled in mill runs.

The balling head is a dual unit, and can be used on all existing dual pin drafters.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-141.



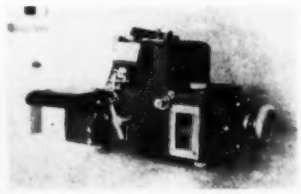
A BALLING UNIT adaptable to all pin drafters can assist in streamlining worsted-spinning operations. Balls weigh approximately 21 lb.



Single-Bobbin Winder Is Automatic-Loaded

AUTOMATIC BOBBIN CHANGING has been added to the single-spindle winder made by Wildt & Co., Ltd., Great Brookham, Surrey, England [TW, Aug. '49, p. 166]. Change of bobbins is said to be made in under 6 sec. Magazine holds up to 20 bobbins, and is adjustable to accommodate various bobbin lengths up to 10 in.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-146.



SEWING MACHINE being introduced in the U. S. is unique in design and operation.

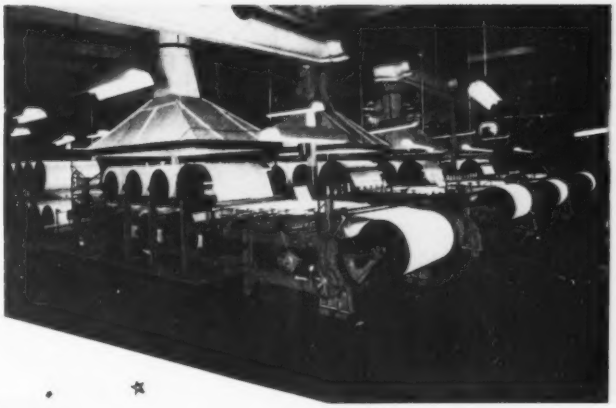
French Sewing Machine Uses Three Threads

A new French-make three-thread lockstitch-edging machine that cuts as it sews at a maximum speed of 3,500 stitches per minute is now available in the U. S. through E. J. Guetta, Inc., 11 West 42nd St., New York. The machine was shown for the first time at the 1949 Lyon Fair.

Two of the three threads operate with hooks, and the third one operates with needles.

Other mechanical features include: (1) all moving parts are inclosed in

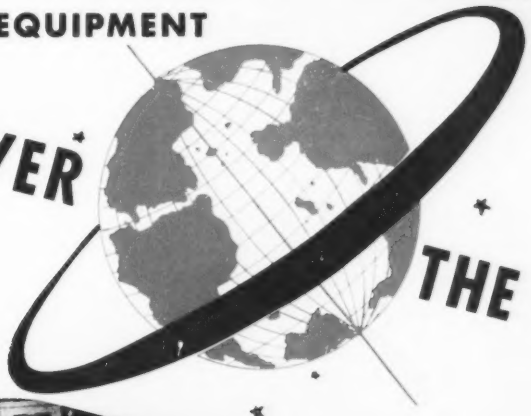
JOHNSON
WARP
SIZERS



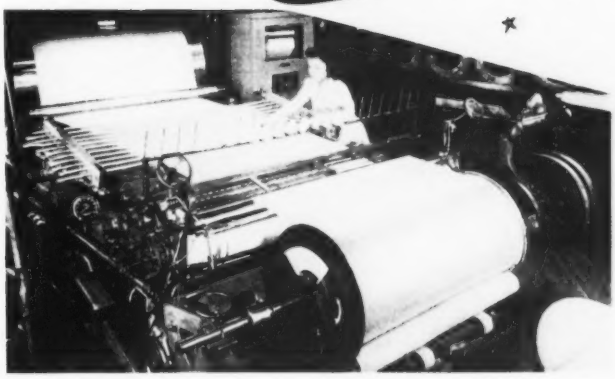
ROBBINS CLOTH MILLS,
Red Springs

STANDARD EQUIPMENT

ALL OVER



THE WORLD



TEXTRON, INC.

HERE AND IN OVER THIRTY FOREIGN COUNTRIES

Charles B. Johnson

PATERSON U. S. A. NEW JERSEY

an airtight compartment and under constant lubrication by an oil mist; (2) motor is inclosed in the frame so that the transmission belt is done away with; (3) a stitch-regulating device allows for adjustments to be made from the outside of the machine while it is in motion; (4) component parts have been cut down to minimum size to reduce mechanical inertia and to raise maximum speed to 3,500 stitches per minute.

Nickel-chrome-alloy steel parts with high surface hardness, friction surfaces machined and inspected to precision tolerances, and several bearings and bearing joints of a graphite-impregnated self-lubricating material are said to guarantee the machine an extremely long life.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-004.

Continuous Washer Cuts Labor, Production Costs

A tensionless continuous cloth-scouring machine designed to reduce labor and production costs has been developed by James Hunter Machine Co. This equipment will continuously process worsted cloth from the gray room through fulling, scouring, extracting, and drying. Wool cloth can be scoured continuously after fulling and processed through extracting and drying.

The washer is made with from seven to nine bowls, depending on the application. The machine has a solid cast-iron frame, and the tubs are either matched cypress or stainless steel. Goods are sewn together and pass either through an open-width soaper for applying tar remover or directly into the first or soaping bowl. The goods are threaded through the machine in slack loops from 15 to 30 yd. in length. These slack loops give the material an opportunity to balloon and change folds throughout the cycle, insuring even scouring.

The average number of nips per bowl, which is 7 ft. 6 in. wide, is 14. These nip rolls are heavy-duty rubber-covered rolls with pneumatic pressure control. The fabric receives 14 nips in each of 9 bowls, or a total of 126 squeezes, approximately 40% more than is obtained in a conventional dolly washer during its entire cycle. Goods then enter the second bowl containing alkali. Tension between the bowls is controlled by means of a compensating dancer roll and patented range drive. A direct-connected d.c. motor drive is also available.

The goods then enter the rinsing bowls and progress through the machine in one direction only. The washer is designed to counterflow the rinse water back from the finishing bowl to each preceding bowl so that the cloth always enters cleaner water. After leaving the washer, goods are opened with a Hunter scutcher, extracted by means of pneumatic squeeze rolls, and fed directly to the Hunter tenter dryer.

Yorkshire Worsted Mills, Lenni Mills, Pa., reports that all operations mentioned are handled on the continuous unit by only three men at a continuous rate of 50 yd. per min. Yorkshire further states that with dolly washers, nine men were required to scour only, plus labor required for extracting and drying.

The water consumption of the continuous washer is approximately 6 to 8 gal. per pound of clean cloth, as against approximately 50 gal. with the conventional dolly washer.

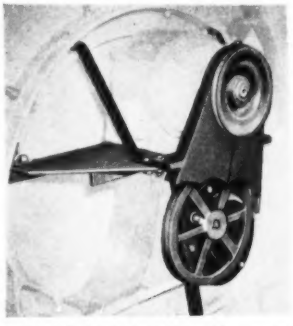
An idea of the savings can be estimated when one realizes that this water must also be softened, filtered, and heated. One of the largest worsted mills in the world reports the following savings on soap: In 1933, using a 5¢ soap, the cost per pound of clean cloth was $.0103. Today's cost, using 17¢ soap with the continuous washer is $.0093 per pound of cloth scoured.

Chatham Mfg. Co. reported that on an installation running at 40 yd. per min., the mill has realized savings of 60% in labor, 75% in water, 75% in steam, 35% in soap and alkali, and over 50% in power required.

Cleveland Worsted Mills reports similar savings at a continuous operating speed of 50 to 60 yd. per min.

It is possible to run this continuous washer with either tacked or untacked goods. The washer may also be used for continuously neutralizing after carbonizing. Ether-extraction tests made after the cycle has been completed show less than 0.005% of fat left in the goods, insuring even dyeing in subsequent operations.

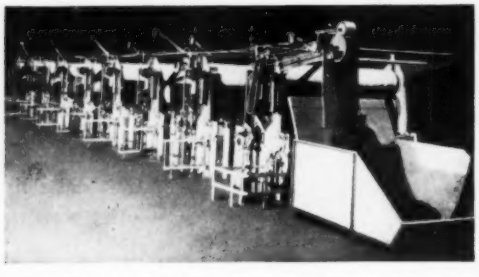
To request further information, please use the card on page C of the Reader-Service dept.; refer to T-137.



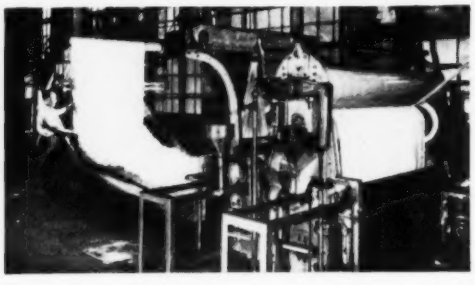
PROBLEMS OF LINE SHAFTING are eliminated in card rooms by the use of the new individual card drive.

Individual Card Drive Provides Efficient Speeds

An individual drive specifically designed for card operation which eliminates line shafting and long flat belt drives has been developed by the



FABRIC RECEIVES 126 SQUEEZES in passing through the nine bowls of this continuous washer.



BOWLS of the continuous washer may be stainless steel or matched cypress.

one quality . . . the highest

HERCULES

PINE OILS

time-tested reagents for wet processing

Send for testing sample to

HERCULES POWDER COMPANY
INCORPORATED

994 Market Street, Wilmington 99, Del.

NYD-1

 For more information, write direct or use Reader Service post card.

American Pulley Co., Philadelphia, Pa. The drive is said to overcome many card-room problems, such as falling lint and fly, inefficient lighting, inadequate air conditioning, impractical machine location, and low machine-operating efficiency.

The unit provides a 20% variation in driven speeds with no loss in overall drive efficiency to insure the correct speed for processing various fibers under all operating conditions. The drive also provides for stripping and grinding the card.

The drive utilizes a high-torque, 1½-hp., 1,750-rpm. motor driving to 5-to-1-ratio helical-gear reducer through an adjustable-diameter sheave and a single V-belt. The entire drive is designed to handle the heavy starting load of a card and yet to operate efficiently at the minimum running horsepower.

Because it is an individual drive, each card can be set to operate at the most efficient speed for the particular fiber being handled, a factor which can increase mill production. Changes in speed can be made quickly by adjusting the variable-pitch sheave on the motor. Other advantages provided by this individual card drive are:

1. Safety—accidents caused by open flat-belt drives are eliminated.

2. Reduced belt cost—one V-belt replaces a flat belt, at approximately one-tenth the cost.

3. Improved product quality—since falling lint and fly are reduced, better sliver quality results.

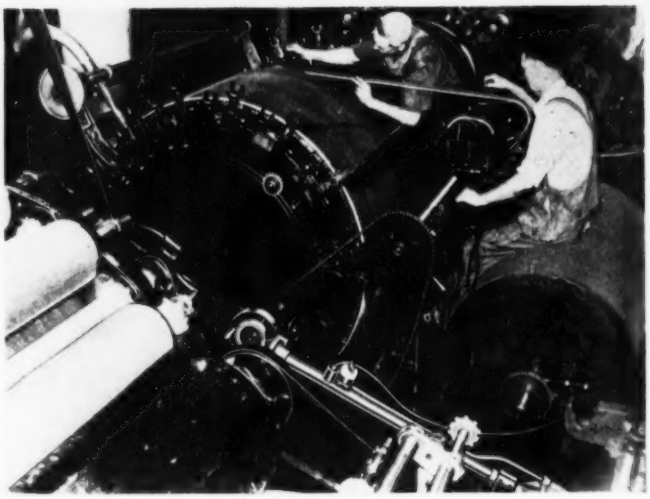
4. Less loss of production time—if any part of the drive breaks down, only one card is shut down. Mass shutdowns caused by the breakdown of a group drive are eliminated.

5. Improved working conditions—improved lighting and air conditioning can be installed in the card room since line shafting is eliminated.

6. Low maintenance—a semi-annual change of oil in the reduction unit is all that is needed to keep the drive in good working condition.

7. More efficient plant layout—since the drive is mounted in the card arch, it requires a minimum of floor space per machine. Each machine can be located for most efficient production, without regard to overhead line shafting.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-151.



CONTROL SWITCH for this clothing tension-regulator drive rests in lap of man regulating tension, permitting convenient stopping and starting of the drive.

Clothing Tensioner Drive Speeds Card Reclothing

A new power drive for operating hand-tensioning devices for applying card clothing is said to reduce the time required for re-clothing cards by up to 75%. The drive is made by the Toledo Pipe Threading Machine Co., Toledo, Ohio.

According to the manufacturer, two men re-covered a 60 x 60-in. wool card cylinder in 3 hr., including make-ready and tacking of both ends. The same job had previously required five men 5 hr. with hand cranking. Hand cranking was also said to result in uneven tensioning, causing some loose clothing. Clothing applied with the power drive in use fitted more tightly, the company states, because of the even, constant motion.

The power drive can be adapted to the operation of most hand-tensioning devices for both wool and cotton cards.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-137.

Hard-Rubber Bobbin Will Not Crack, Splinter

A spinning bobbin designed for higher production, lower costs, and increased efficiency is being made by United Ebonite and Lorival, Ltd., Little Lever, Bolton, Lancashire, England. The bobbin is made of hard-rubber material made as a one-piece molding to very fine limits and accurate diameters. The bobbin has been under test in Lancashire mills during the past two years.

Among the many advantages claimed for the bobbin are elimination of mill-marks, complete absence of cracking or splintering, and great shock resistance. The bobbins do not absorb oil, and there is no metal to chip off, the manufacturer states.

The bobbin is also said to produce better yarn and to stand up easily to higher spindle speeds.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-149.

CARDS ARE HELD NEATLY and firmly by a new formed-plastic holder on looms or other machinery.

Formed-Plastic Holder Protects Production Cards

A new formed-plastic holder for production tickets or IBM accounting cards has been developed by R. B. Van Houten Co. 128 Lafayette St., Chat-

MORE WORK IN LESS TIME

. . . when QUADRAFOS* eases scouring

Raw wool and piece goods speed through the scouring process faster than ever before when QUADRAFOS joins your soap and alkali. Emulsification of residual grease is quicker and more complete. Soil removal reaches new heights of efficiency. That's because QUADRAFOS gets under and between the soil and grease particles, lifts them off, forces them apart and holds them in perfect suspension for thorough rinsing . . . Write for proof of this and all the other time-saving, money-saving ways QUADRAFOS simplifies wet processing.

softens water without precipitation . . . deflocculates . . . redissolves precipitates . . . promotes free rinsing

*REG. U. S. PAT. OFF.

RUMFORD DIVISION, HEYDEN CHEMICAL CORP.
Technical Service Department
11 Newman Avenue
Rumford 16, Rhode Island

Please send me further information about the use of QUADRAFOS in textile wet processing. I'm particularly interested in:

- ☐ Raw wool scouring
- ☐ Piece goods scouring
- ☐ Kier boiling
- ☐ Reducing bleach requirements
- ☐ Brighter, more uniform dyeing
- ☐ Viscosity control of printing pastes
- ☐ .....

Name .....

Firm .....

Address .....

.....

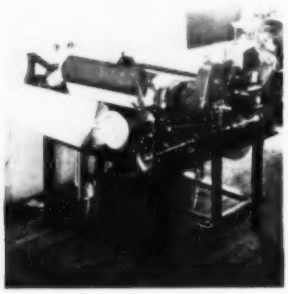
City ..... *Zone* ..... *State* .....

ham, N. J. The holder, called "Preproved" is made clear, translucent, or opaque. Tests are said to show that the holder can withstand heat, humidity, and impact in excess of that received in normal manufacturing operations.

A retaining flange prevents cards from "riding up" in the holder. Loading and unloading of the holder is simplified by a finger hole in the back of the holder. A bottom flange holds cards safely in the holder, but does not obstruct removal of cards when desired. A metal eyelet is used to hold the card to the machine.

The holder is available in various sizes, and it is said to be inexpensive.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-155.



PA-PRESS UNIT is used to batch fabrics before they are set electronically.

Fabric Set By High-Frequency Heat

A new method of setting thermoplastic fabrics by use of high-frequency heat has been patented by Grand Rapids Textile Machinery Co., 1405 S. Division Ave., Grand Rapids, Mich.

In the new method, moist thermoplastic fabric and a superimposed length of surfacing material are wound onto an electrical conducting cone. The alternate layers of fabric and surfacing material are then covered with an electrical conductor before the core and covering are placed in a high-frequency electric circuit. The h.f. current passes through and heats the roll. Current is maintained until the roll is heated to a temperature higher than subsequent processing temperatures require. The current is then shut off, and the roll is allowed to cool.

The process is said to produce highly satisfactory results. Cost of operation is said to be inexpensive.

Grand Rapids Textile Machinery Co. makes a Pa-Press unit for moistening the fabric and rolling it up in paper. The press unit also includes a paper-reclaiming unit for re-rolling the paper after use and for batching the fabric for scouring and dyeing.

A short-wave induction unit is required to heat the fabric.

Rolls of fabric are hung in a rack where a number of rolls can be heated at the same time. The size of the heating unit and rack are determined by the production desired.

Deliveries can be made reasonably soon, the company states.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-147.

BOBBINS CAN BE CLEANED quickly of lint, fly, etc. by this new device.

Bobbin Chokes Cleaned By Compressed-Air Valve

Fly, lint, and litter can be removed easily from bobbins by a new air-valve device. The device, called the Watuppa bobbin-choke remover, was developed by M-B Products, 130–134 E. Larned St., Detroit 26, Mich. Use of air is said to produce a cleaner job than can be done with a wire or brush, and with exceptional speed.

When the bobbin is placed on the head of the device and depressed, a gust of air emerges from an orifice. All trash is said to be blown from the bobbin.

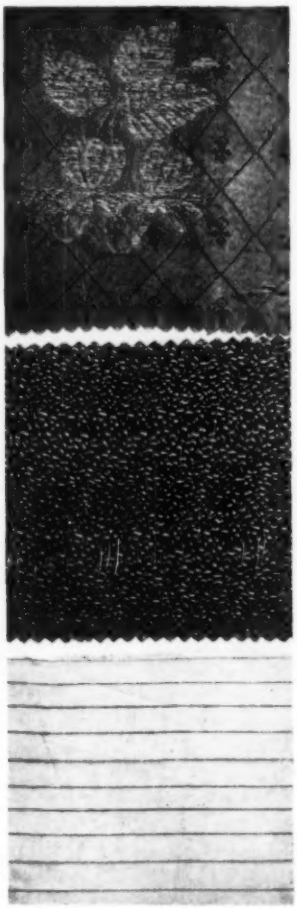
The choke remover is available in two types: Model A has a concave head to accommodate bobbins where the outside diameter is not larger than $\frac{7}{8}$ in., Model B has a convex head for larger bobbins.

The device can be attached in a stationary position on a bench, wall, or post, with screws or bolts.

All component parts of the air valve are made of materials best suited for the purpose and are machined to close limits. The body is of alloy steel machined from bar stock.

A hose line 3 ft. long is furnished with male connection on each end.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-138.



FABRICS made with the chemically deposited metallic-coated yarn can be dyed after manufacture without tarnishing the metal coating.

Metallic Yarn Will Not Tarnish

Luxus-Fil, a new chemically metallized yarn which can be produced on cotton, nylon, rayon, or silk has been developed in Italy. The process for metallizing is available for license in North America through Angelo Caporrino, 330 W. 56th St., New York 19, N. Y. The metallic coating may be of

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AZO DYES

Here's how to remember *The Secret of Quality*

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gold or silver, is said to be flexible, inexpensive and untarnishable.

Yarn treated with the metallizing process is said to be increased in strength by one-third.

The metallic coating is applied by chemical deposition; no lamination is involved. Yarn produced is said to be able to undergo any finishing treatment of washing, bleaching, or dyeing as yarn or in piece goods, as long as directions are followed.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-139.

NYLON COMPRESSION RINGS set into the barrel of this bobbin compensate for longitudinal expansion and contraction.

Armored Aluminum Bobbin Resists Crushing Synthetics

A bobbin of unconventional design for withstanding the crushing of nylon and other synthetic yarns has been developed by Acrometal Products, Inc., Div. of U. S. Bobbin & Shuttle Co., Lawrence, Mass. The new bobbin, in twister, take-up and headless models, is called Acropak.

The design of the bobbin is said to use new techniques and new materials to provide a combination of strength, light weight, shock and wear resistance, and lasting concentricity that offers improved efficiency and lower bobbin costs.

The Acropak twister bobbin is a combination of drawn aluminum-alloy "armored" with nylon plastic. The aluminum-alloy barrel is designed to have ample strength to withstand the crushing pressure that causes distortion in conventional bobbins. Set into the barrel are two beveled nylon compression rings which compensate for any longitudinal expansion and contraction of the barrel during loading and unloading. The aluminum-alloy flanges, of unique drawn construction, provide a continuous surface, said to eliminate yarn entrapment between the barrel and head.

Nylon rims protect the flanges, resisting the wear of yarn drag. High impact resistance is said to prevent accidental nicks which might cause slubs or breaks. Nylon bearings are designed to absorb shocks, retain an accurate fit, and not "freeze" on the spindle.

The construction provides a lightness that relieves spindle bearings of excess weight, permits higher spindle speeds, and promotes greater yarn production, the manufacturer states. Concentricity is controlled in manufacture by precision dies and tests with specially developed instruments.

The Acropak take-up bobbin is of drawn-aluminum construction, and is designed with the same features of lightness, strength, and absolute concentricity as the twister bobbin. The conventional joint between barrel and flange is eliminated, avoiding yarn entrapment.

The aluminum alloy is said to be unaffected by high steaming temperatures and is anodized to prevent yarn stain.

The Acropak headless bobbin is fabricated from aluminum alloy and stainless steel. Drawn with precision dies, and tested for accurate balance, it provides true-running concentricity, the company states.

Use of the headless bobbin is said to eliminate the need for an expensive mandrel. One operation is all that is necessary in take-apart, instead of five for conventional mandrel-cylinder assemblies. The saving in operating time is said to be 75%.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-140.

Instrument Measures Color Temperature

A new instrument for measuring the color temperature of illuminants, the Spectra, has been developed by Photo Research Corp., Burbank, Cal.

The Spectra is a photo-electric instrument. Readings of the Spectra are given directly in degrees Kelvin of color temperature, a figure which indicates instantly the color quality of the light source in question. No special skill or knowledge is required to operate the instrument.

What the Spectra determines, basically, is the ratio of red to blue light in the source being measured, although the scale is calibrated to read

INSTANTANEOUS COLOR - TEMPERATURE readings can be made with this new portable instrument.

directly in degrees Kelvin of color temperature.

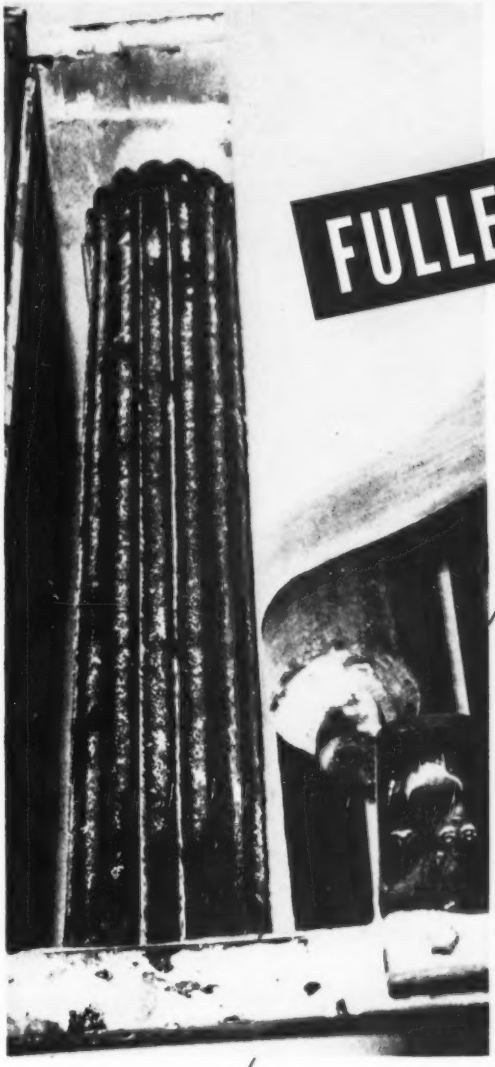
Inside the small, easily portable instrument is a carefully selected barrier-type photo-cell. Over this cell is a deep red filter and a variable diaphragm of special construction. The instrument is pointed at the light source to be measured, and a ring rotated to adjust the diaphragm until the needle comes directly opposite a red mark on the scale. A trigger on the grip is then pulled, swinging the red filter out of the way and replacing it with a blue filter. The needle then reads, with no computation or conversion, the color temperature of the light source in degrees Kelvin.

To request further information, please use the card on page C of the Reader-Service dept., refer to T-152.

Air Filter Has Water-Wash Built In

Electric air filters custom-built to handle any desired air volume are now being produced by Trion, Inc., McKees Rocks, Pa. As determined by the U. S. Bureau of Standards "blackness" test, the filters will remove 90% of the dust, dirt, lint, soot, smoke, pollen, oil mist, and air-borne bacteria

TEXTILE Equipment NEWS (Continued on page 262)



FULLERGRIPT BRUSH

TAKES THE LUMPS . . .

(LITERALLY AND FIGURATIVELY)

At the Acme Backing Co. in Brooklyn, a Fullergript starch agitator brush literally takes the lumps out of starch — and prevents an excessive amount of starch from being deposited on the fabric.

Figuratively, this Fullergript brush can take the lumps, too. It has been in service for 8 years and half the trim is still left.

Learn how Fullergript can help with *your* special problem. Simply write to . . . . .

FULLERGRIPT — The FULLER BRUSH CO.

INDUSTRIAL DIVISION, 3594 MAIN ST. HARTFORD 2, CONN.

THIS IS NO. 78 OF A SERIES ON

GETTING THE MOST FROM TWISTING

Information about twisting designed to show improvements in twisting equipment and new ideas in the twisting operation

ATWOOD

SPECIAL TOOLS AND GAUGES for Atwood Twisters

Spindle Leveling Gauge

This gauge (A) is used when leveling spindles or idlers on any of the Atwood twister frames.

With a choice of the bushings (B), the gauge will accommodate the various types of spindle blades. The bushings are slipped into the hole in the center of the gauge and are held there by a headless set screw.

The two adapters (C and D) are used for leveling the idlers. The plug (C) is used when leveling ball bearing type idlers; it is seated in the oil well, and the leveling gauge with the proper bushing is placed over it. The leveling spindle (D) is used when leveling plain bearing idlers; it also is seated in the oil well, and the gauge with proper bushing is placed upon it. This is also used to determine whether or not the oil is at the correct level. With the leveling spindle seated in the oil well, the oil should be visible at the lip of the well.

Ring Gauge

The ring gauges (E) are used to center the rings on Atwood ring twisters. They are made in four different sizes — 3 1 2 in., 4 in., 4 1 2 in. and 5 in. — to accommodate the various size rings.

Bobbin Centering Pin Tool

This tool (F) is used when replacing older type centering pins on the Model 200 Redraw. The spanner wrench (G) is used to hold the cork cot; the two prongs fit the holes in the side of the cot. With the wrench holding the cot, the centering pin tool is inserted in the hole in the centering pin, and the pin can then be removed. The most recently designed pins can be removed with a screw driver.

Wrenches

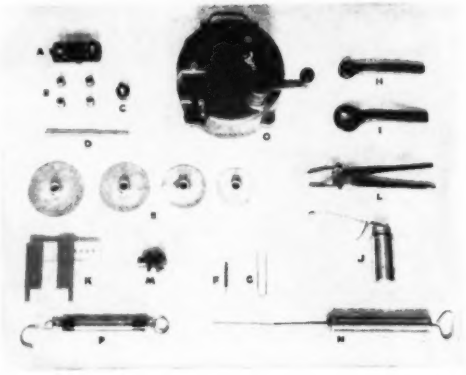
The spindle step wrench (H) is a special wrench used on the Utility, Monarch and Model 100 Uptwisters. The spindle swing stand nut wrench (I) is a special wrench used only on the Model 10 Ring Twister and the Model 110 Uptwister.

Oil Can

The oil can (J) is used for oiling all Atwood twister frames. A hypodermic needle can be attached to the nozzle to facilitate oiling the feed rolls on the Model 10 Ring Twister.

Finger and Cork Roll Centering Gauge

This gauge (K) is used on the Utility, Model 100, Monarch and C & B twisters to adjust the fingers for 4 1 2 in., 5 in., 5 1 2 in., 6 in. and 6 1 2 in. space. The adjustment of the gauge is made by means of the movable arm. The fingers are then adjusted so that the milled grooves for the bobbin gudgeons contact both the arms. The cork roll is then centered between the cutouts on the lower portion of the arms.



Spring Compressor

This tool (L) is used to compress the spindle step spring when replacing the spindle step on older model equipment.

Spindle Rail Level (M)

This level is used on Utility, Monarch and C & B twisters. The level fits into the eye in the spindle rail and can be turned around in this eye to permit leveling both crosswise and lengthwise.

Syringe

The syringe (N) is used for draining oil from the spindle and idler stands.

Spring Winder

This tool (O) adjusts the ring rail balance.

Scale

The 5 lb. spring scale (P) is used to test the spindle swing spring tension.

See pages on Universal and Atwood in TEXTILE CATALOGS AND DAVISON'S

*Reg. U.S. Pat. Off.

23.9.3

Nov., 1949

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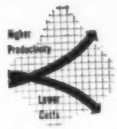
Kinks AND SHORT-CUTS



Best-Kink Award For September

Each month TEXTILE WORLD awards $25 to the submitter of the kink which is judged by a panel of over 200 practical mill men as the best for that particular month. A new batch of kinks appears each month, and a new group of readers acts as judges each month.

If you are asked to judge one of these days, be sure to help select the best kink by sending back your answer in time for final tabulation. Closing date for judging is the last day of the month in which the kink appears.

The best kink for September, according to TEXTILE WORLD reader-judges, was:

"Knock-Off Electrodes Reduce Seconds and Breaks"

By William G. Casey, Hanover, Ill.

Mr. Casey is being sent a check for $25 with the compliments of TEXTILE WORLD.

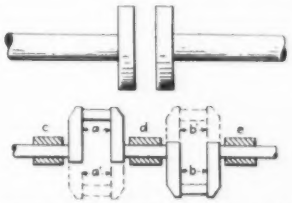
Check Shaft Alignment With Inside Calipers

Perfect alignment of two shafts is essential when the two must be coupled together. Here are two instances where alignment can be easily checked with calipers.

If two shafts end in the usual type of solid couplings, as shown below in the sketch, alignment can be checked at top and bottom with inside calipers. The measurements at these two points should be identical. If they are not, the shafts are out of line. Necessary adjustments can be made until the points show identical measurements.

In the case of double-crank crankshafts, such as those used on some pumps and compressors, caliper measurements should be made as shown in the lower sketch.

If bearings c, d, and e properly support the shaft, caliper readings taken at a and a' (the up and down positions of the crank) will be identical. Likewise, b and b' will be identical. If the shaft is not properly supported, the crank webs will tend to open out or close up when the cranks change positions. *(K-1234) W. E. Warner, Essex, England*



ALIGNMENT OF DOUBLE SHAFTS coupled together can be checked with inside calipers, as shown at A. Caliper measurements at points a and a' will be identical if the two shafts are in line. Caliper measurements at points a and a' and b and b' in sketch B will, in the same manner, show whether the double-crank crankshaft is properly supported by bearings c, d, and e.

Loom Whiproll Bracket Has Oil Hole and Bearing

Because the whiproll bracket arm on a loom is not fitted with a bearing and an oil or grease cup, there is considerable wear of the roll as well as of the socket in the arm bracket.

Another troublesome problem is that when oil is used, there is a tendency for it to leak on other parts of the loom or on the floor.

To overcome these objections, Borden Mills, Inc., Kingsport, Tenn., has installed a new type of whiproll arm designed by Paul Ray, loom mechanic. This arm replaces the sawtooth whiproll arm. The results have

Below is announcement of a greater KINK CONTEST you can enter NOW. Kinks being published in this issue will be judged as outlined in the rules below.

$200 for Best Kink in 1949
$25 for Best Kink Each Month

In Addition to Space Payment on Acceptance

You undoubtedly know of many kinks and short cuts that are helpful to mill operators. Write them down and send them in. We pay promptly on acceptance—before publication. In addition, your kink may win the $200 check for the best kink of the year or the $25 check for the best kink of the month, maybe both!

Send in your kink now. There is always a contest going on. The more good kinks you send in, the better your chances of winning a prize in addition to earning some easy money for every kink accepted.

We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it—we will pay you extra if you do and we can use it.

Look over the kinks in this and other issues. You will get ideas you can use as well as inspiration for kinks you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments or methods of merit—anything that will cut costs, improve quality, or help production.

Your published kink will be judged impartially by other mill men. In case of ties, duplicate prizes will be awarded.

RULES OF CONTEST

1. No limit to number of entries.
2. New $25 prize contest every month, $200 prize contest for the year. Monthly contest confined to kinks published that month, yearly to those published in calendar year 1949.
3. All kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 200 will be asked to select preferred kinks in each issue. Their votes will select the best kink, and their decision will be final.

Send kinks to whichever address you prefer:

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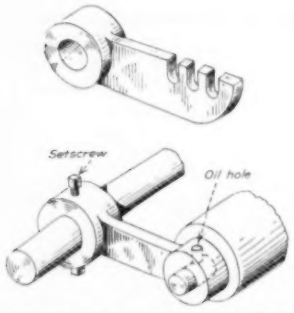


AN OIL-BEARING WHIPROLL BRACKET for looms can be made as shown here. The bracket sleeve that supports the whiproll is equipped with a bearing and an oil hole. Up and down adjustment is possible by means of setscrews in the sleeve that is anchored to the supporting shaft.

been more efficient operation with less wear and maintenance.

The new arm is composed essentially of two sleeves connected by an arm. One sleeve fits over the shaft that supports the whiproll; the other one fits over the end of the whiproll and supports the roll in an oil bearing. An oil hole is drilled in the top of the sleeve so that the bearing can be oiled.

Forward and backward adjustment is not provided, as with the standard sawtooth arm. Up and down adjustment is provided, however. The sleeve that fits over the supporting shaft is held in position by setscrews. The setscrews can be loosened and the arm pivoted up or down to any point desired. *(K-1237)*

Auxiliary Cone Belt Saves Cutting Down Ends

The cone belt on a roving frame is one of the most important minor belts in a mill. In the long-draft system, roving is made as light as possible; and in order to keep roving supplied to the spinning room, it is necessary that roving frames be stopped by breakdowns as little as possible.

Cone belts break too often. Since it is the only agent on a roving frame to do the winding, a broken belt causes a loss of production and lowers the capacity of the frames to supply the spinning room with roving.

For years I have used the following kink to guard against broken cone belts.

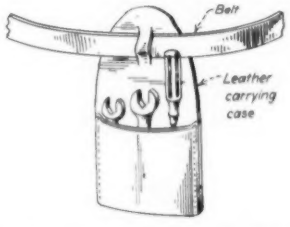
I make an endless cone belt as short as practicable. It should have just enough slack to permit winding the rack when the bottom cone is raised. The hair side of the belt contacts the cones.

With this belt in place over the cones, I lower the bottom cone and measure an auxiliary belt as tight as possible over the first cone belt. This time I turn the hair side out, so that the flesh sides of the two belts are against each other.

Both belts should be no more than than 1½ in. wide.

Having the belts short enough to hold the bottom cone at about its highest point guards against the frame of ends being cut down. When the inside belt breaks, the cone drops and is engaged by the outside belt. The frame continues to run without breaking down the ends. *(K-1235)* William Shaw, Providence, R. I.

Handy Tool Carrier



A HANDY TOOL CARRIER can be improvised from thin leather, as shown in the sketch. This carrier is for the few tools that fixers have a habit of carrying in the hip pocket. Better than 90% of all machine fixing can be accomplished with two or three wrenches, a screwdriver, and a pair of pliers. A leather case for carrying these tools can be fastened to the fixer's belt; or if desired, it can be made to fit the hip pocket. (K-1232)

Notch in Yarn Holder Lessens Filling Drag-Ins

Drag-ins are still one of the most troublesome piece-goods defects. When they are numerous and of considerable length, they will often place an otherwise first-quality piece into seconds or rejects.

A notch cut in the under edge of the yarn holder as shown in the sketch will lessen drag-ins.

FILLING DRAG-INS can be reduced by the use of a yarn holder notched as shown here. The new notch hooks the old strand of filling; and on the change, the regular hook catches the new strand.

If yarns still have a tendency to slip after the notch has been cut as shown, the notch can be made deeper and given a slight fish-hook lip. As the lay moves forward, the old strand of yarn hooks on the new notch and the new strand on the change hooks on the regular hook end on top.

When both strands are hooked, they remain out of the way of the moving lay and shuttle. *(K-1227)*

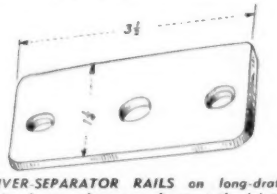
Broken Water Line Repaired by Welding

Sometimes it is necessary to repair a broken water line that is buried underground. Here's how one such line was repaired by welding.

A hole was dug around the break so that the welder would have plenty of working room. The valve wouldn't cut off the water tight enough to prevent a small trickle at the break; so a hole was drilled on each side of the break to permit water to run out before it reached the point that was to be welded.

The break and then the two holes in the top of the pipe were welded. The holes in the bottom of the line were tapped for ½-in. pipe plugs. *(K-1212)* The Lincoln Electric Co.

Long-Draft Sliver Rail Held Together by Plates



SLIVER-SEPARATOR RAILS on long-draft roving frames often come loose at the joints. A plate similar to this one will hold the joint firmly in place. The center hole fits over the present bolt in the rail, and two other holes must be drilled in the rail sections for bolts that fit through the end holes in the plate.

The rail that supports the wooden sliver-separator fingers on our long-draft roving frames used to work loose at the joints. There are four sections in the rail on each frame, which made three joints where we had trouble.

We stopped that trouble by the use of an anchor plate at each joint. The plates are 3½ in. long and 1¼ in. wide. They are made of plate metal ¼ in. thick, and each one has two ¼-in. holes and one $\frac{7}{16}$-in. hole drilled in it. The $\frac{7}{16}$-in. hole, drilled in the center of the plate, fits over

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the bolt used to hold two rail sections together.

The two ¼-in. holes, one near each end of the plate, are countersunk for bolts to anchor the two sections firmly to the plate. These bolts are placed through holes drilled at appropriate places in the rail and secured underneath with flat washers and lock nuts.

Since these plates were installed, we have had no more trouble with the rails coming loose at the joints. *(K-1239) C. A. Head, Greenville, S. C.*

Care of Truck Casters

The casters on trucks used in the mill require attention at least once each month. Occasionally, if the truck is on two- or three-shift duty, it may need attention more often.

One of the best maintenance plans is to have the truck gone over during a Saturday afternoon when the usual shipping and hauling are at a standstill. Heavier trucks often require the use of a jack, but the lighter trucks can be turned over so that the casters are up.

Remove the casters and clean off all lint and waste clogs. If the spindles are worn or rusty, it is best to replace them if possible. Grease the spindles heavily. Replace the casters if the rims and tires are badly damaged.

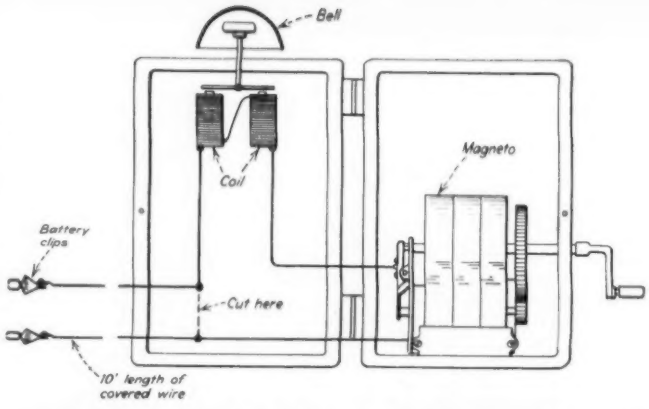
If the casters are oiled frequently enough, the metal will not rust and the operation of the truck will be smoother. *(K-1233) H. E. Wenrich, Berwick, Pa.*

Short-Circuit Tester Made From Telephone Bell

A tester for detecting short circuits in electric stop motions on looms can be made from an old telephone magneto bell box. Boxes may be obtained cheaply from the telephone company, as their use has been discontinued. Two 10-ft. lengths of insulated copper wire, with a small snap battery clip attached to one end of each wire, are also needed.

The magneto box may be opened by removing the screw in the door or cover. Two small wires lead from the magneto in the box to the bell coils. One of these two wires must be cut and the end of one 10-ft. length of wire attached to each severed end.

Circuit between the magneto and bell coils is now open and may be tested by clamping the clips on the ends of the wires together. When the handle on the magneto is turned clockwise to close the circuit, the current in the coils should cause the bell to ring.



***A SHORT-CIRCUIT TESTER** can be made from an old telephone magneto bell box. Cut one of the two wires that lead from the magneto to the bell, and attach a 10-ft. length of wire to each cut end. Place battery clips on the free ends of these extension wires and use them for connections. When the tester is used, a circuit closed by a short causes the bell to ring.*

To test the electrode bar on a loom, attach one clip to the top of the bar and one on the bottom. If there are no drop wires down and the bell rings when the magneto handle is turned, there is a short circuit somewhere along the bar that is closing the circuit. The loom will continue to knock off until the trouble is eliminated or the electrode bar is replaced.

To test the wires leading from the switch to the electrode bars, attach one clip to the wire that enters the switch and the other clip to the connection on the electrode bars. If the circuit is in good condition, the bell should ring when the magneto handle is turned. Failure to ring indicates a faulty wire or connection that is closing the circuit.

The circuit tester has proved useful in mills that run two or three shifts and have no electrician present on the second and third shifts. Loomfixers easily learn to use the tester, and it is a help in locating and correcting trouble in electrical circuits. Its small cost is quickly repaid in the prompt detection and remedy of electrical troubles. *(K-1225) Wallace C. Gray, Lincoln, Me.*

Steel Filings Add Grip

Spanner wrenches sometimes slip when a nut with a worn head is being removed. Of course, such bolts should be discarded, but it is first necessary to remove them.

An easy way to increase the grip of a spanner so that a nut with a rounded head can be removed is as follows:

Clean the spanner and then magnetize it. Sprinkle the gripping jaws with fine iron or steel filings. These filings will stick to the jaws; and when the spanner is placed on the head of the nut, they will grip the nut sufficiently to make the spanner effective. *(K-1238)*

Threaded Bolt Extension Cemented to Old Bolt Shank

We recently had a ¾-in. machine holding-down bolt to break off below the surface of the casting from which it protruded. Since none of the bolt was exposed except the broken end, it was not possible to remove the bolt and replace it with a new one, without tearing the machine completely apart.

We found it advisable to repair the broken bolt.

The job was done as follows:

A washer was placed over the hole left when the threaded end of the bolt came out. The washer served as a guide for the ¼-in. drill used to drill out the center of the imbedded piece of nut to a depth of about 4 in.

After the center of the bolt was drilled out, a ½-in. drill was used to make a cut 2 in. deep into the bolt. Finally, a ¾-in. drill was used to increase the diameter of the top of the drilled hole to a depth of 1 in.

A bolt extension was then made from a piece of steel. It was cut long enough to extend to the bottom of the ¼-in. hole and protrude from the

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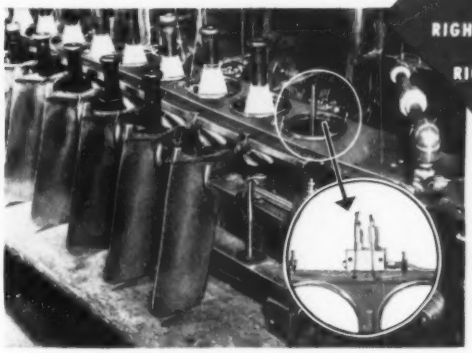

The Lincoln Centralized Lubricating System installed by Alexander Smith & Sons Carpet Co., provides automatic lubrication at 10-minute intervals through 100 injectors on each of their Whitin Twisters. This application of the right lubricant, in the right quantity, at the right time has resulted in the elimination of staining of the yarn and the consequent increase of the wear life of the travelers and rings.

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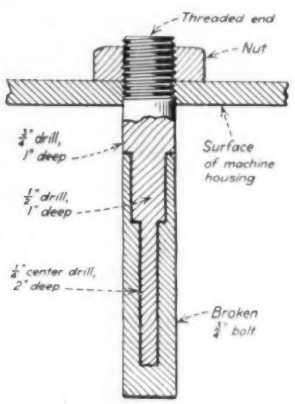


A MACHINE BOLT was repaired as shown here. A 4-in. hole, stepped down from ¾ to ½ to ¼ in. as shown, was drilled into the shank of the bolt that could not be removed. Then a steel bolt extension, machined to fit the drilled hole, was cemented to the old bolt shank.

machine housing to the necessary height. Thus, the length of the steel piece was about 5 in.

The steel bolt extension was machined to fit the drilled hole. The lower 2 in. of it was cut to ¼ in. in diameter, the next 1 in. to a ½-in. diameter, and the rest of it to a ¾-in. diameter. Then the top end of the bolt extension was threaded for a nut.

The stepped-down end of the extension was covered thinly with iron cement and driven into the drilled hole. It was left there for 48 hr. to permit the cement to bond it to the sides of the hole. At the end of that period, the repaired bolt held firmly. *(K-1224)* W. E. Warner, Essex, England

Looms Held to Floor by Resin, Asphalt, and Felt

Over 2,000 looms have been anchored to weave-room floors by the felt-pad-and-glue method described here. The pads have held well in both temperate and tropical climates on wooden, tile, and concrete floors.

The materials needed are the felt pads, and resin and asphalt for making the glue.

Mix equal quantities of resin and asphalt in an open-top metal drum. The drum should be deep enough to prevent the glue mixture from boiling over on the fire. It should have a strong metal handle so that an iron bar can be stuck through the handle and the drum lifted off the fire.

Heat the glue mixture to a boil; then carry it to the loom that is to be set up.

The felt pads should be soft but of firm texture. They should extend ½ in. beyond each side of the loom foot.

Line up the loom so that it is in its proper running position, and drop four felt pads into the hot glue mixture and immerse them. Raise one end of the loom by means of a lever and fulcrum block. Take one pad out of the hot mixture with a pair of tongs, and place it under one of the raised loom feet. Then place another soaked pad under the other raised foot. Lower the loom feet onto the pads.

Place the other two pads under the other side of the loom in the same manner.

Check the alignment of the loom immediately. If it is slightly out of line as a result of the two ends being raised, force it back into line with the lever. This adjustment must be done at once. The glue will set up in 2 min.

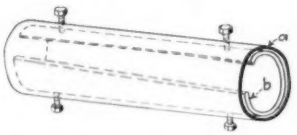
If the floor is reasonably level, the loom will find a true level by squeezing out more of the glue mixture in high places than in low places.

If the loom is driven by an individual motor, it can be put in operation in about 10 min. after the pads are placed. If the drive is by overhead belt, it should not be started for 1 hr.

Advantages of this type of anchor are that the pads will not work loose, oil will not affect them, and they reduce vibration.

The glue mixture can be saved in the drum and reheated when it is needed again. *(K-1197)* T. Hargreaves, Iroquois, Ontario

Grinding Small Parts Made Easy With Holder



HOLDER FOR GRINDING small parts can be made as shown here. The part is placed in the end of liner b and the setscrews are tightened. Tube a should be long enough to provide a good hand grip.

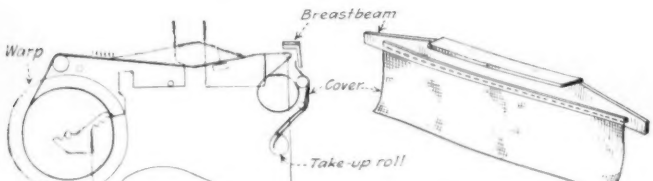
Grinding small parts—such as the ends of screws, tool bits, and knitting-machine parts—is usually a tedious job. The main trouble is holding the part in such a way that the hands do not come into contact with the emery and heat generated in the part does not burn the hands.

A good way to hold the part to avoid these troubles is to mount it in a drill chuck. Another way is illustrated in the accompanying sketch.

A piece of steel tubing *a* is fitted with liner *b*, made of smaller tubing. Liner *b* is slit down its length. Setscrew holes are drilled and tapped in *a* as shown.

To use the holder, place setscrews in the holes in *a*, insert liner *b* into *a*, and place the part to be ground in the end of *b*. Run the setscrews down until liner holds the part. Hold the opposite end of *a* in the hands during grinding. *(K-1182)*

Plastic Cover Keeps Cloth Clean



A TRANSPARENT COVER for the cloth on a loom will keep the cloth clean without interfering with vision. The cover can be made of a clear plastic material.

Two ways to mount the cover are shown here. As mounted in A, metal eyelets are bradded into the plastic cover and screws in the eyelets are used to fasten the cover to the breastbeam. As mounted in B, a wooden batten over the edge of the cover can be used to support screws to fasten the cover to the breastbeam. (K-1217) Celanese Corp. of America

Metal Tap on Handle Prevents Wood Splitting

Fixers often use the butt of the wooden handle of a screwdriver or other tool instead of a hammer. In time, the end of the handle becomes rough and sometimes splits.

To overcome this trouble, put a nickel-plated metal tap on the top of the tool handle. These taps, sometimes called "glides," are used on the

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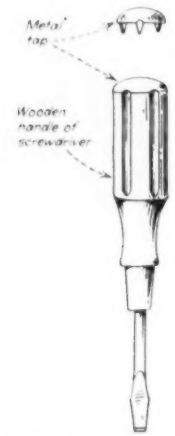
BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*



***WOODEN TOOL HANDLES** that are sometimes used instead of a hammer for light tapping can be protected against splitting as shown here. A metal "glide," used on the legs of tables and chairs, can be driven into the end of the tool handle and used for a tapping surface.*

legs of chairs and tables. They come in different sizes, so that proper sizes can be obtained for small or large handles. They are sold in practically all hardware stores.

No screws are needed to put them on the tool handles. As shown in the sketch, each glide is made with three sharpened plugs that can be driven into the wood with a hammer. *(K-1222)* Luther J. Keller, Sr., Allentown, Pa.

Filling Color Motion Improved on Old Looms

Many automatic Knowles-head looms are equipped with the old-style filling color motion that has a long wire connecting the box motion with the color arm on the magazine. This color motion may be modernized by the installation of an overhead color motion similar to the one illustrated, which is an adaptation of the motion used on the W-3 loom.

With the old-style motion there is always a possibility that the wire running under the loom may be bent out of shape when the fixer is under the loom hooking up the harness straps. A slight bend in the wire may cause the color motion to transfer a wrong color of filling when more than one color is used in the fabric.

Parts to change old-style looms as indicated here may be secured from the loom builders and made to fit most looms with little machine work or fitting. *(K-826)*

Pin Punch From Dagger

A discarded stop-motion dagger makes an excellent pin punch for use when the tension pads in the shuttle must be replaced. Usually, punches break so often that a loomfixer has trouble having one on hand when it is needed.

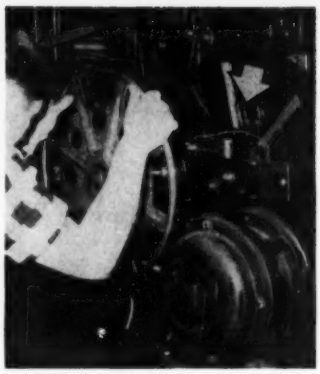
The dagger is hard metal, and slow grinding should be done to avoid heating it and drawing out the temper. After it has been ground, the punch should be polished with an emery disk. *(K-1229)*

Simple Visual Check Shows Friction Slippage

Looms such as the Crompton & Knowles W-3, or others that have open spaces in both the friction gear and plate, may easily be tested for friction slippage.

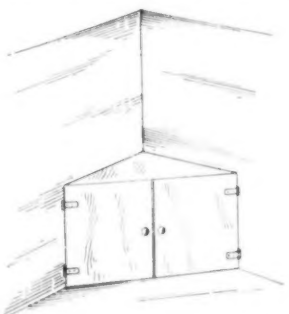
When the loom is started, the plate and gear turn as one unit. If there is friction slippage, the gear will gradually move ahead of the plate and the solid part of the gear will cover up the open part of the plate.

To make this test with the loom in motion, look through the opening of the handwheel, gear, and plate and watch the crankshaft turning. If there is no friction slippage, you will get a clear picture of the crankshaft turning. When the friction is slipping, the opening will gradually be covered and block the vision of the crankshaft. *(K-1180)*



***FRICTION SLIPPAGE** on many looms can be checked by looking through the openings of the handwheel, friction gear, and plate. When the loom is started, the turning of the crankshaft can be seen through the openings if there is no slippage. If there is slippage, the solid part of the gear will block vision.*

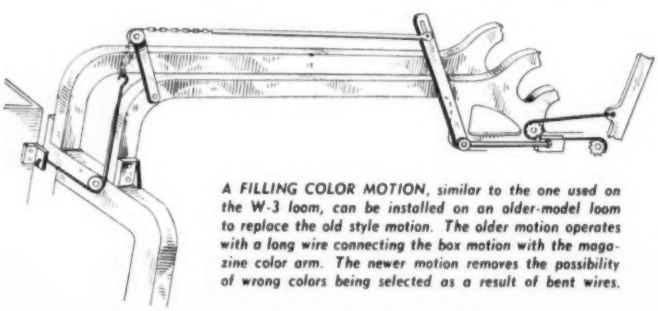
Cabinet for Odds and Ends



***A CORNER CABINET** about 3 or 4 ft. high makes a good place to store odds and ends like buckets, grease guns, oil cups, etc.*

Cleaning buckets, aprons for warp hangers, grease buckets, etc., are often placed along a wall, around machinery, or at a workbench. This practice causes an unsightly appearance and creates a fire hazard as well.

Most processing areas have corners or other places that would be suitable for cupboards that could be used for holding these odd pieces of equipment. A triangular cupboard about 3 or 4 ft. high built in a corner usually will not take up enough room to interfere with traffic. *(K-1230)*



***A FILLING COLOR MOTION**, similar to the one used on the W-3 loom, can be installed on an older-model loom to replace the old style motion. The older motion operates with a long wire connecting the box motion with the magazine color arm. The newer motion removes the possibility of wrong colors being selected as a result of bent wires.*

Lower costs and increased operating efficiency result when equipment is made appreciably lighter with Dow

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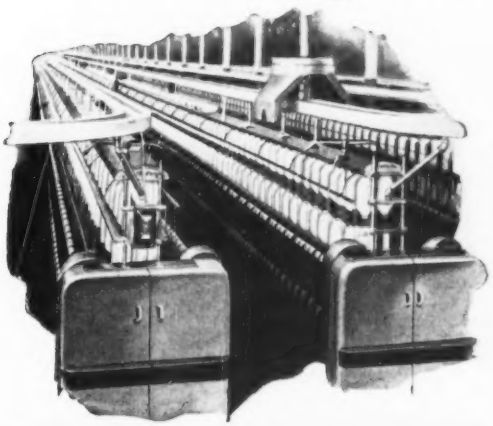

And this is true of many, many different kinds of machines. If you are trying to cut excess pounds off parts that go into your equipment, there's one material that stands head and shoulders above all the others for that job. It's magnesium, the world's lightest structural metal.

Magnesium is 33⅓% lighter than aluminum, its closest rival—75% lighter than steel. Yet for all its lightness, magnesium is a thoroughly sound material and is easily worked by conventional shop methods.

Designers and manufacturers of textile equipment, for example, know the importance of keeping dead weight down to an absolute minimum. They've seen how magnesium pays by making reciprocating parts appreciably lighter—and how lighter parts increase operating speed, lower down-time and reduce power requirements. Magnesium can pay for you, too. Write for your free copy of "How Magnesium Pays".

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Round Table

FOR EXCHANGE OF IDEAS—*The Round Table is open to letters from any and all readers discussing subjects relating to mill management, production, engineering, technology, etc. Names of contributors will be held confidential if so requested, but contributions must be signed with real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table,* TEXTILE WORLD, *330 West 42nd St., New York 18, N. Y. Write your message on card in Reader-Service Department if you wish.*

American Business Stabilizes Confidence

Since the start of the breaking up of governmental controls over textile processing, our faith in American-business know-how has been vindicated by the extensive expansions and tremendous investments in new ventures.

After every world conflict, we have experienced either a quick or a slow readjustment no matter what the experts predicted. We have come through these periods without experiencing a complete breakdown of industry that would shatter our faith in American industry.

At no time immediately before or after the World Wars have we been thrown into a condition of national unemployment or extensive financial reversals for long periods. American business know-how has always stood its ground during such critical periods.

Right now, we see evidence of confidence. Capital makes larger investments than ever before in re-equipping mills and in building new plants with modern engineering skill.

These developments place American business in the best position in years. The future will be met with the most modern plant equipment and methods, and the finest production and craftsmanship. Let us all put our utmost mental and physical resources behind American venture, thus showing our confidence in American business ability and leadership in meeting problems without governmental controls or competition. *(R-498, Frederick A. Alter, Paterson, N. J.)*

Employers Can Mitigate Monotony

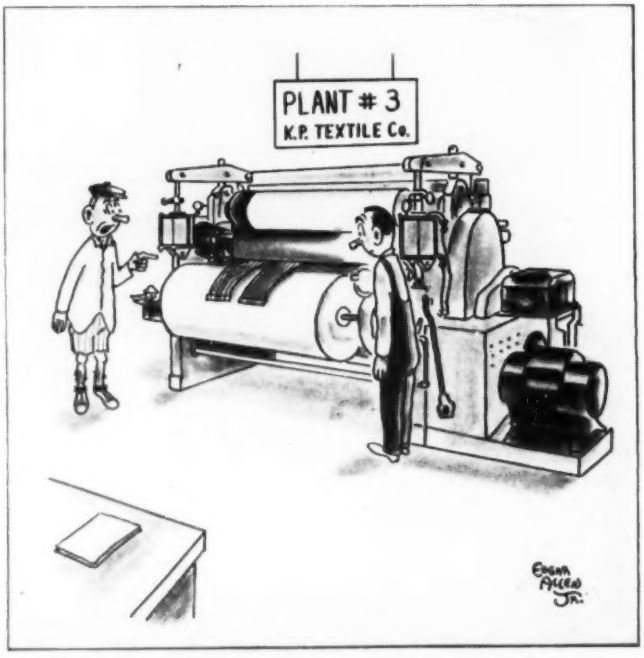
No matter how hard it tries, mill management never can eliminate monotony. But with a bit more effort, it can mitigate a considerable part of its ill effects.

Sadly enough, those who know monotony by first-hand experience, the workers themselves, are seldom capable of voicing their feelings effectively. Even less frequently can they offer constructive ideas on how to overcome it. The message may be facie in the form of resentment and change to new employment. But if workers have been slow to spell out their hatred for monotony, mill management has possibly been equally lax in recognizing the results.

What is the cure for monotony? Change, of course. How wonderful it would be if the answer were that simple! In handling large groups of employees, any change requires plenty of shifting behind the scenes. So the change is scheduled and fit into a definite program. And the first thing you know (although actually the worker knew it long ago), the much-publicized change has developed into a part of the monotony pattern. Mill management has been generous in its attitude. Even so, improvements in morale and production soon level off or slump back to the old standards, because the basic problem remains almost untouched.

To be of benefit, the change must constitute a break in routine in place of merely another link in the chain of monotony. For example, the introduction or extension of a rest period is a novelty for a little while, and then fades back into the monotonous pattern of mill operation. But a half hour of unscheduled relaxation for some special program, solely as a one-time proposition, will prove a marvelous

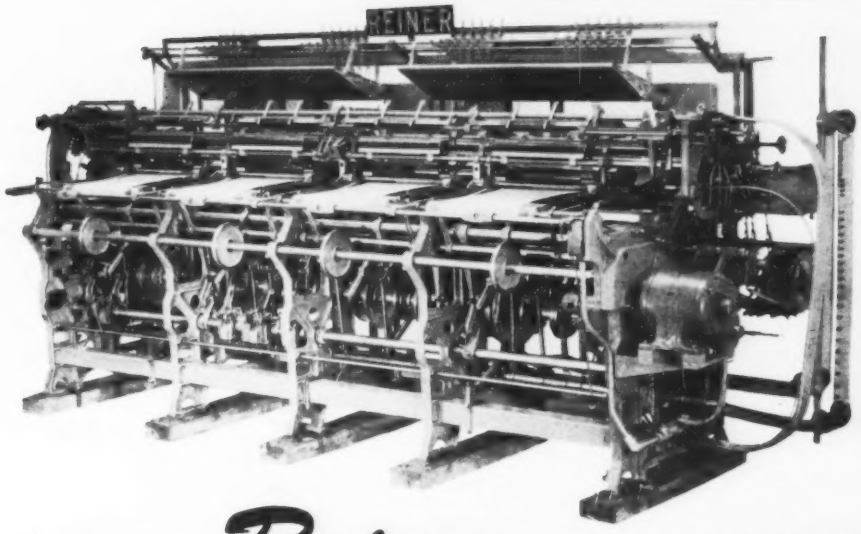
TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*



"Not good enough, Charlie—Step it up to six tons and run it again!"

Announcing

66 GAUGE



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Up to eight machines can be run by one operator. Sturdy, simple construction. Knitting width 15 inches. Up to 8 yarn carriers. Machines come fully assembled, hence no setting-up delays. High-speed knitting and fashioning. The semi-automatic welt turning is the only manual operation connected with the entire knitting cycle. All other movements and functions—from start to finish of a complete stocking—are fully automatic. Many other features.

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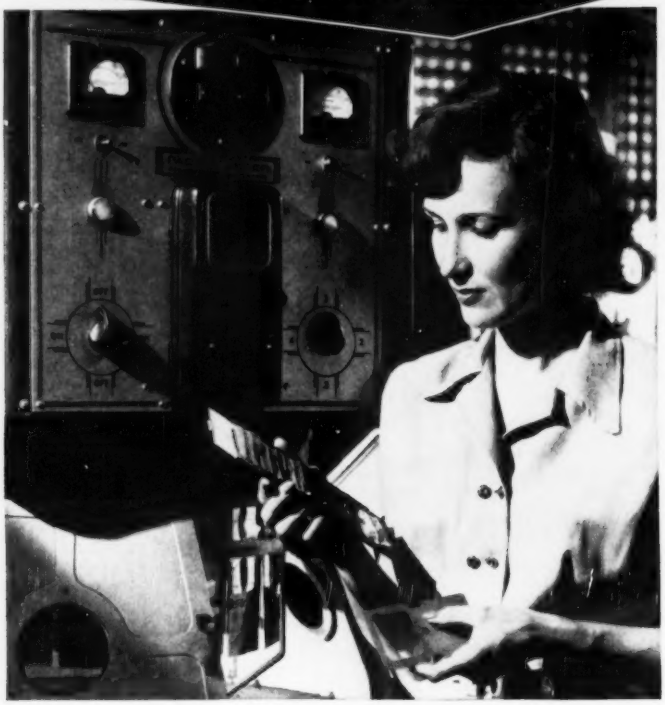
. . . is guinea pig for more than 3,000,000 women



Women who use the Good Housekeeping Guaranty Seal as a guide in purchasing fabrics know that it is the distinctive mark of dependable quality. Before granting the Seal, the Good Housekeeping Textile Laboratory uses an Atlas Fade-Ometer to measure fading of colors caused by sunlight on each fabric.

In the Fade-Ometer, dyed fabrics — plastics — and a host of other products — are carefully evaluated for their resistance to the fading action of sunlight. As the source of light, the Fade-Ometer utilizes the Enclosed Violet Carbon Arc, recognized as an excellent reproduction of natural sunlight. Samples are rotated around this source, and light is highly concentrated so that the effects of sunlight are accelerated many times.

Relatively short exposure in the Fade-Ometer, therefore, is equal to months of outdoor sunlight and on the basis of test results the Textile Laboratory can safely predict whether or not the fabric will be satisfactory in actual use.

Operation of the Fade-Ometer is simple and fully automatic so that it may safely be left in continuous operation overnight. The degree of fading on each sample is measured in terms of Standard Fading Hours.

ATLAS ELECTRIC DEVICES COMPANY

361 West Superior St., Chicago 10, Illinois

LAUNDER-OMETERS — WEATHER-OMETERS — FADE-OMETERS

Round Table

help in allaying the deadening effects of monotony.

The unexpected break in routine may take planning and may seem to cost something in production. But be fair about it, and calculate results during the week in which the break occurred, in comparison with an average week. If you show no loss in tangible results, you are still ahead because you have temporarily licked monotony. Being profit-minded management will note with interest that the one-time proposition carries very slight expense, while changes which fit into the regular schedule bring with them a continuing cost.

If mill management could listen in on workers' conversations, it would discover the enthusiastic tones are reserved for the breaks in routine rather than changes which seem little more than shifts in the monotonous pattern of daily employment. Repeated with unfailing regularity and on a definite schedule, the most startling change soon loses its fresh appeal and becomes just another detail in the ever-present monotony.

Some workers solve their personal monotony problem by getting another job. Some sullenly accept conditions and go about their duties without enthusiasm or inspiration. To avoid either of these circumstances, mill management can well afford to use its best planning to lessen monotony by unscheduled, novel, and reasonably frequent breaks in routine. *(R-497, George M. Dodson, Harrisburg, Pa.)*

Textile Men Should Recognize Fire Hazards

Because of the increasing use of aluminum sheets and framing in the construction of textile structures, it should interest plant operators to learn of the potentialities of increased fire losses under certain conditions. The low melting-point characteristic of the new material has both good and bad effects in case of fire, depending on the conditions involved.

Under certain conditions, fire in an aluminum building may be expected to vent itself quickly and automatically at the point where the greatest concentration of heat is centered. This result effects the removal of the smoke and fumes to assist the firemen. However, if no fire fighters are instantly at hand, the draft created will add to the violence of the fire, increasing the area and rate of fire damage. Early collapse of exposed aluminum framing can be expected at points of high-heat concentration in approximately

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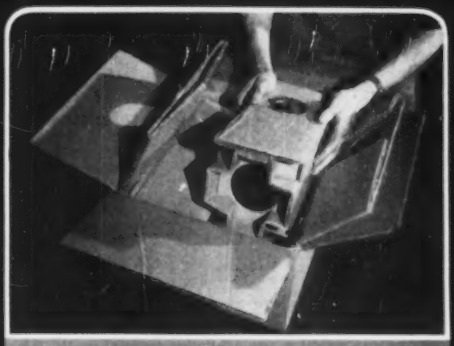

CONCENTRATED WEIGHT

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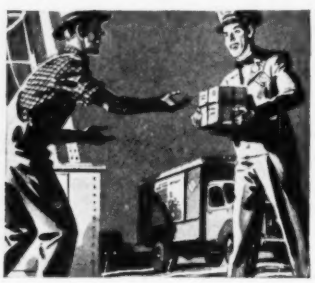
This electric motor, small as it is, requires more than casual packaging attention. It must have a super-strength box, especially designed to accommodate the uneven contour of the housing. H & D package engineers worked out this low-cost, easy-to-pack, two-piece unit, adding interior packing to give complete protection against all shipping hazards. Let H & D solve your packaging problem!

$3.19 Air Express cost helped this wildcatter strike it rich!

When a pump valve goes while drilling for oil, it's costly. Idle men and equipment make profits evaporate. It happened to a wildcatter at 4 P.M. Phoned 800 miles away for parts—delivered 11 P.M. that night by Air Express. 12 lbs. cost only $3.19. (*Regular* use of Air Express keeps *any* business moving.)



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Round Table

(Continued)

the same length of time that is required to melt aluminum sheets.

An 0.032-in. aluminum sheeting in a vertical position will flow at 1,320° F. and melt at 1,350° F. The identical sheets in a horizontal position will flow at 1,202° F. and melt at 1,350° F. Some sheets of non-uniform thickness have failed at 945° F. in tests.

The foregoing information should make it quite obvious that the contents of all aluminum buildings should be protected by adequate sprinkler systems or the contents should be confined to non-combustible materials. (R-496, Paul Ziemke, Oak Ridge, Tenn.)

Increased Mechanization Netted One Mill $40,000

I have just finished reading the editorial in the August issue of TEXTILE WORLD on higher operator production through use of more machines. For years, I have tried to put over this idea to machinery manufacturers and to mills purchasing new equipment. I was amazed at the number of mills that would not add machines and were quite proud of the fact that they were getting high machine efficiency in many of the departments of the mill.

One of the jobs that stands out in my mind is a thread mill. It had an old timer who watched the production reports every week and when anybody got below 90% in any department, he was in trouble.

Finally, the mill had a change in management; and in one department alone it was shown that the mill could save $40,000 a year by purchasing a few more machines in order to operate at lower machine efficiency. A similar survey at a second mill showed even greater savings. The changes went into effect at the second mill; but because of a difficult labor situation, it was unable to sell the union on the plan.

I have wondered why more of the machine builders do not follow along the lines of your editorial, for they could do a lot in helping the mills to understand how the machinery should be operated. One textile-machinery engineer I know did an outstanding job along these lines. Back about 1924, he started with one timestudy man; and it took him years to accumulate the timestudy information and production facts which he is today making available to mill men.

Your editorial in the August issue certainly rang a bell with me! (R-550)

BUENSOD-STACEY, INC.

Announces a New Portable Electric Humidity and Temperature Indicator for quick testing of Humidity and Temperature

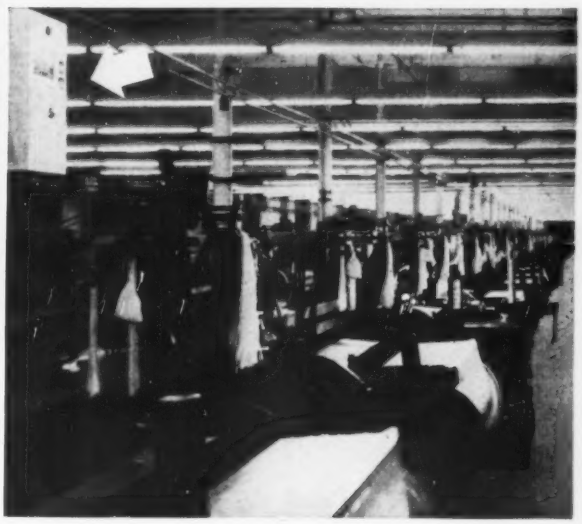
The Buensod-Stacey Portable Electric Humidity and Temperature Indicator was developed to meet the demand for quickly taking direct readings at any point in the mill of percentage of relative humidity and temperature in degrees Fahrenheit. Price $250 U.S.A. plus transportation and sales taxes.

Available immediately.

PATENT PENDING

THE BUENSOD-STACEY ADJUSTABLE INTERMITTENT HUMIDITY CONTROLLER insures extremely close control of relative humidity without the objectionable atomizer-head "wet-down" that is sometimes encountered. This "wet-down" is eliminated by the adjustable and intermittent features of the CONTROLLER which regulates the cycle of atomizer-head operation without interfering with their use in obtaining the desired relative humidity conditions. The adjustment extends through a wide range and is therefore suitable for a variety of applications.

CONTROLLED HUMIDITY WEAVE ROOM



A view showing the Buensod-Stacey Adjustable Intermittent Humidity Controller in the #6 Weave Room of the Hathaway Manufacturing Co., New Bedford, Mass. which room has 8 Controllers in operation.

P. L. Davidson & Associates, Textile Consulting Engineers, Buensod-Stacey, Inc., Installing Engineers.

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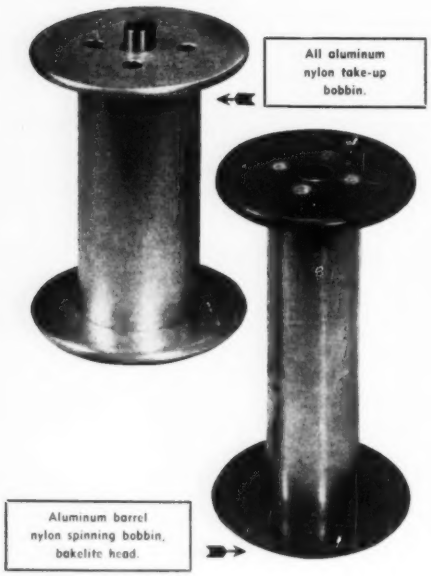

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- *All parts are machined* to closest tolerances, and finished satin smooth to prevent yarn abrasion.
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It costs less to use efficient LESTERSHIRE Unit Construction Bobbins than to replace worn spindles.

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We will be glad to submit samples of the type bobbins you use, made to Lestershire high standards of design and construction.

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READER-SERVICE DEPARTMENT

This four-page insert is at your disposal to help you derive increased benefit from your readership of TEXTILE WORLD. We hope you will study it, get well acquainted with it, and use it freely.—The Editors.

TO COMMENT on anything about TEXTILE WORLD, use the card below. We hope you will use it to give us your opinion, favorable or unfavorable, on any editorial material in order to help us serve you better. Use it to discuss textile-manufacturing problems, perhaps enlarging on something already printed, for publication in the Round Table department. Use it to tell us what you would like to see published to help you with your mill problems.

TO INQUIRE about any mill problem you may have, use the card below. If you have a technical question, submit it to our Questions and Answers department. Be sure to give as complete details as possible so that your question can be fully understood.

TO CONTRIBUTE kinks, textile-news notes, or other brief material, use the card below. If you have some useful idea for cutting costs, improving quality, or increasing production, enter it in our KINK CONTEST. We also warmly welcome queries as to the probability of our accepting for publication any specific articles you may contemplate writing for us.

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Dear Editor:

(over)

MANUFACTURERS' BULLETINS

FREE FOR THE ASKING

Reviewed here is the outstanding trade literature of the month. Items are listed one month only—no repeats. Mill executives may request copies of literature by using cards on the next page.

Card clothing said to require less frequent stripping is described in a bulletin published by Benjamin Booth Co. Pictures and details of construction are included along with results of actual mill operation. A series of sketches shows clearly the differences between this new card clothing and the conventional type. **(F-1)**

Concrete drilling with a combination electric hammer and drill is discussed in a catalog sheet made available by Wodack Electric Tool Corp. Specifications of the unit and prices of several **outfits** designed for special needs are included in the publication. Accessory equipment for other drilling and grinding applications is also shown. **(F-2)**

A forged-head beam developed by Milton Machine Works, Inc. to step up yardage output and withstand many times the usual amount of nylon yarn considered practical on tricot-knitting machines is shown together with data and specifications in a bulletin recently released. Light metal, permanent-mold section beams are also described. **(F-3)**

A high-speed headless-package twister which builds up yarn into tapered or straight-end headless packages from 8 oz. to 32 oz. in size is featured in a bulletin issued by U. S. Textile Machine Co. Devices pictured and described include the stop-motion and take-up yoke, spindle swing unit, twist unit, and the drive unit. **(F-4)**

Centralized-lubrication studies are reviewed in a bulletin published by the Farval Corp. Six plant reports from various industries indicate the background of each installation and the savings achieved by the Farval method. **(F-5)**

"Fiber Blending" is the title of a booklet recently published by Proctor & Schwartz, Inc. After a brief introduction, the booklet takes up the definition of a blend, types of blending systems available, and the possibilities and limits of various systems. Text material is liberally illustrated with simple sketches. **(F-6)**

Hand lift-trucks in capacities from 1,000 to 15,000 lb. are presented in a bulletin made available by Barrett-Cravens Co. Close-up views illustrate such mechanical features as the patented rear-axle construction, lifting mechanism, spring-handle hold-up for the handle, and the roller-bearing latch catch. A chapter is devoted to selection of the proper model of lift truck. **(F-7)**

Modern leather belting—its selection, installation, and maintenance—is the subject of a booklet from Henry K. Barnes Co. In the section devoted to the selection of leather belts, there are five tables to correlate pulley diameters, belt speeds, motor speeds, and correction factors to compensate for motor type, starting method, and special operating conditions. **(F-8)**

Ball bushings, the ball bearings for linear motion, are featured in a 12-p. catalog published by Thomson Industries, Inc. Two series of such bushings are covered, and the catalog lists 22 design advantages of this type of bearing. Mounting arrangements, installation data, and prices are also given. **(F-9)**

A fully automatic filling winder for cotton, wool, silk, rayon, worsted, jute, linen, or flax is described in a catalog published by Atkinson, Haserick & Co. Actual production figures are given, and outstanding features of design and operation are shown in pictorial inserts. **(F-10)**

"Ten Million Stitches a Minute" is the title of an article appearing in a recent issue of *Shell Progress*, publication of Shell Oil Co., Inc. The story tells how the P. H. Hanes Knitting Co., Winston-Salem, N. C., takes 30,000 bales of cotton each year and transforms it into millions of knitted and woven garments. **(F-11)**

Non-slip material for stairs, ramps, catwalks, building entrances, and floors is discussed in a folder issued by Minnesota Mining & Mfg. Co. A new material, Type B, has a pressure-sensitive adhesive which is described in the publication. Features of ease in installation are pictured and described. **(F-12)**

A 175-p. catalog of its products has been prepared by General Chemical Div., Allied Chemical & Dye Corp. Section headings include acids, ammonia, alums, sodium compounds, new chemicals, fine chemicals, tables, factors, and reference data. The final section covers handling and storage. The entire catalog contains a wealth of helpful information to users of the products. **(F-13)**

Machinery manufacturers will be interested in a bulletin dealing with "Everdur," a corrosion-resistant alloy made by American Brass Co. Applications, physical properties, and constants of the alloy are listed. Standard specifications and a discussion of the alloy resistance to corrosion complete the bulletin. **(F-14)**

Combustion control when using combination pulverized coal and oil firing is discussed in an article appearing in a recent issue of *Energy*. Many pictures of an actual installation are given. The article is written by the chief engineer of a textile mill which uses the system. **(F-15)**

Roll slitters and rewinders for every industrial use are presented in a folder from Johnstone Engineering & Machine Co. Besides showing pictures of twelve such machines, the folder gives construction details of the slitter units. Several textile applications are shown. **(F-16)**

An evaporative-cooling and humidifying system which is said to eliminate shutdowns from excessive heat is described in a bulletin from G & H Mfg. Co. The theory of evaporative cooling is explained, and details of the atomizing head used in the unit are also given. **(F-17)**

Caustic soda is the subject of a new bulletin released by Solvay Sales Div., Allied Chemical & Dye Corp. The 80-p. bulletin contains information on the properties of caustic soda and its solutions; the nature and advantages of

---

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330 WEST 42nd STREET

NEW YORK 18, N. Y.

McGraw-Hill Publishing Co., Inc.

liquid caustic soda, plus the latest data on its unloading and handling. The text is profusely illustrated with photographs, tables, charts, graphs, and diagrams. **(F-18)**

Industrial vacuum cleaners, which are said to save in production time, are featured in a folder issued by Breuer Electric Mfg. Co. Features of a good industrial vacuum cleaner and the uses that can be made of such a unit are given. A free trial offer is also described. **(F-19)**

The story of Sonoco Products Co. is told in attractive fashion in a booklet recently published by the company. A history of its operations and organization is followed by a description of the manufacture of paper tubes and cones. Engineering and research are also covered together with a section on employee relations. **(F-20)**

Synthetic resins, which are finding increasing uses in the textile industry, are featured in a technical booklet issued by Hercules Powder Co. A key to the specific uses for such resins is provided by a chart which matches the resins with their actual and potential uses. Resins described in the booklet are used for textile sizing, protective coatings, binders, and other products. **(F-21)**

How materials can improve pump life is told in a booklet from International Nickel Co., Inc. The booklet contains eight illustrated pages in which four factors that affect pump life and performance are discussed. Definite case histories are cited in connection with various destructive influences. **(F-22)**

A new recording viscometer for automatic 24-hr. control of viscosity in textile mills is described in a catalog published by Norcross Corp. Pointing out the disadvantages of laboratory viscosity tests, the catalog outlines the design and operation of the viscometer. Two pages are devoted to reports on ways of sizing. **(F-23)**

Battery purchasers, users, and maintenance men will be interested in a 40-p. pocket-size handbook of instructions and engineering data made available by Gould Storage Battery Corp. Four sections—care and operation, maintenance and repairs, parts, and technical data—make up the handbook. One of the many useful tables gives water and acid ratios required for obtaining a given specific gravity. **(F-24)**

Wool scouring with Onyxol 9162 is the subject of two reports made available by Onyx Oil & Chemical Co. Results of tests conducted at Lowell Textile Institute are included with more extensive mill-run data. **(F-25)**

Supervisory annunciators which warn of impending dangers are described in a bulletin made available by Auth Electric Co., Inc. The purposes of such equipment types available, and details of construction are included with a general discussion. **(F-26)**

Textile trucks for handling warp beams, cloth rolls, and section beams are featured in a catalog published by J. W. Lewis & Co. Ten types of trucks are pictured and described. Specifications of each type are given in detail. A price list is also included. **(F-27)**

Modernization of cotton mills is discussed in a memorandum issued by The McPherson Co. Eight important changes in the cotton-textile industry that will affect mill operation are listed and make for interesting reading and study. **(F-28)**

Belt conveyors of all types are featured in an engineering data book prepared by Continental Gin Co. Dimensions and prices of each type are followed by sections on accessory equipment. Take-ups, pillow blocks, pulleys, etc., are also shown. A lot of other information is given, such as belt-conveyor diagrams, engineering data, and horsepower requirements. **(F-29)**

Shutters and penthouses for ventilation control are shown in a folder published by L. J. Wing Mfg. Co. Self-closing, manually-operated, and motor-operated shutters are discussed. Dimensions of shutters are given, and a page of the folder is devoted to penthouses and their dimensions. **(F-30)**

CARDS ON THIS PAGE are for the use of mill executives in writing for manufacturers' bulletins reviewed here, as well as for additional information about items appearing in our TEXTILE EQUIPMENT NEWS, NEW DYES AND CHEMICALS, and USEFUL ACCESSORIES departments, or in the ADVERTISING PAGES.

Write in the box of any one coupon the letter and number printed at the end of the editorial item that interests you. In the case of advertisements, enter the letter A followed by the page number. If there is more than one advertisement on that page, please add the initials of the manufacturer. In every case, we'll advise the manufacturer as to what you want in order that you may receive the reply direct from him.

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A new fast yellow for printing and dyeing is presented in a folder from Calco Chemical Div. Four swatches are attractively included in actual-use surroundings. Details of both the dye paste and printing paste are included. **(F-31)**

A compressor-selection chart, based on normal applications handling air with atmospheric intake pressure, has been made available by Worthington Pump & Machinery Corp. The chart simplifies selection of the proper size compressor for average industrial use, with quick comparison between discharge psi., gage and piston-displacement cu.ft. per min., and shows recommended bore and stroke in inches. **(F-32)**

A handbook for care of centrifugal pumps has been published by Allis-Chalmers Mfg. Co. The booklet tells how to figure head and carries tables to help determine total friction loss. Causes and cures for various sources of trouble are offered along with a new maintenance timetable. **(F-33)**

Chemists will be interested in a manual on the properties, uses, and methods of handling ferric chloride prepared by Pennsylvania Salt Mfg. Co. Uses of the chemical, characteristics, and equipment recommended for use with it are included. Solubility of the compound is said to render it valuable as a catalyst in condensation, polymerization, and chlorination reactions. **(F-34)**

Do you use canvas in any form? C. R. Daniels, Inc., has put out a folder which gives fingertip information on dozens of canvas products. Among those that textile men are interested in are tarpaulins, baskets, bags, hampers, trucks, water buckets, shipping bags, stretchers, and aprons. **(F-35)**

Emulsions for batching of hard fibers and for jute and soft hemps are described in a series of leaflets issued by Chemotex Ltd. Compounds for waterproofing and rot-proofing are also covered. A final sheet discusses a cationic softening and stainless batching agent. **(F-36)**

Accident prevention and investigation are discussed in two articles which appeared in a recent issue of the *American Mutual Magazine of Loss Control*. A sample accident-investigation report clearly shows how proper analysis of all factors affecting an accident can lead to the cause and probable remedy to prevent further such mishaps. **(F-37)**

Fatty-acid esters are the subject of a set of data sheets prepared by W. C. Hardesty Co. Arranged in chart form, the information includes specifications and respective solubility in oils, solvents, and waxes of various-molecular-weight polyethylene, glycol, mono- and di-stearates, and various glycerol and glycol esters of fatty acids. **(F-38)**

Instrumentation as an important phase of textile-mill modernization is presented in an article in a recent issue of *Instrumentation*. Pictures and schematic diagrams illustrate the text material, which covers slashing—size-box level, cylinder temperatures, yarn regain—and batch dyeing. **(F-39)**

Do you use corrugated boxes? A handy vest-pocket classification indicator has been prepared by Hinde & Dauch Paper Co. The indicator tells at a glance which box is recommended for safe packing and shipment of articles in various weights and sizes. Consolidated classification requirements are also listed for each type box. **(F-40)**

Wet-finishing machinery featuring complete ranges or individual machines is described in a folder from Cook—P & N Machine Co., Inc. A steam-pad dye range engineered for a New England mill and also individual padders, dye kettles, and accessory units are included. A complete cloth-opening range is also shown, together with machines for open width and rope processing. **(F-41)**

Range drives for high-speed, continuous operation of textile-finishing equipment are featured in a bulletin published by General Electric Co. A typical adjustable-voltage d. c. range-drive system is shown in a schematic diagram and accompanying description. Other systems for special requirements are also covered. Coordinating systems for keeping operations "in step" are given good coverage as well. **(F-42)**

Baskets, hampers, and trucks for every factory and mercantile need are described in a folder issued by C. R. Daniels, Inc. Besides the many types of reinforced-canvas products, there is a section covering four kinds of shipping bags. **(F-43)**

Continuous dilution of caustic soda is the subject of a bulletin released by Proportioneers, Inc. A chart shows the advantages of buying caustic in the liquid form. Features of their diluting system are discussed and illustrated by several charts and diagrams. **(F-44)**

A horizontal power-belt conveyor, latest addition to their line of material-handling equipment, is described and illustrated in a bulletin issued by The Rapids-Standard Co. Inc. A page in the new bulletin shows how the three components —drive section, intermediate gravity-conveyor section, and take-up section— are constructed and assembled. There is also a panel indicating various types of motors available to power the unit. **(F-45)**

Washroom layouts are featured in a catalog made available by Bradley Washfountain Co. Location, construction, equipment, and size of washrooms are discussed and illustrated in a series of actual industrial layouts. Another diagram indicates minimum practical clearances for washfountains, toilets, showers, and lockers. **(F-46)**

Dermatitis—its prevalence in various branches of industry and methods of preventing it—is discussed in a bulletin published by L. E. Hicks & Son, Inc. Actual figures from the U. S. Public Health Service are cited to show the magnitude of this problem. **(F-47)**

A guide to fatty-alcohols has been prepared by M. Michel & Co., Inc. Properties, uses, and analysis data on cetyl, oleyl, and stearyl alcohols are given in the booklet. A special section is devoted to soaps and textile specialties. **(F-48)**

A very interesting and informative part-by-part analysis of the fork-lift truck is presented in a recent issue of Clark's *Material Handling News*. Among the many questions answered in straightforward style are: What is a fork-lift truck designed to do? Which power—gas or electric? Which tires—solid or pneumatic? **(F-49)**

Tension regulation with an electronic device designed to meet the needs of continuous industrial operations is featured in a bulletin from Reliance Electric & Engineering Co. The device, a short-stroke dancer roll, is presented with both industrial application and the theory behind its operation. **(F-50)**

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Questions AND Answers

Tarnishproof Treatments Are Covered by Patents

Technical Editor:

How can a fabric be treated to make it tarnishproof? We are interested primarily in treating cotton flannel such as is used for wrapping silver tableware so that it will prevent the silver from tarnishing. Can cadmium acetate be used? (9334)

Theoretically, it is possible to impregnate a piece of cloth with any of a number of salts, including cadmium, which will prevent tarnishing. Tarnish is caused by the reaction of hydrogen-sulphide gas in the air with the silver, forming black silver sulphide. The object of all treatments is to interpose a protective layer of a metallic salt, so that the sulphide will react with these metals before it reaches the silverware.

Practically, very few of the theoretical possibilities have worked out. By making a search of the patent literature, you no doubt could find worth-while information on this subject.

To work out a process not covered by patents very likely would involve some thousands of dollars worth of work and research.

Package-Drying Oven Is Now Out of Date

Technical Editor:

Can you give me some comparison between yarn dryers that (1) force air from the inside to the outside of yarn packages, (2) force air from outside to inside, and (3) do not force air through the packages at all? (9336)

The type of dryer you list as No. 1, which forces hot air through the package from inside out, is typified by the port dryer. On this type of dryer, the yarn packages are mounted on perforated spindles and placed on an open hot-air pipe. Air from the pipe is blown through the yarn and allowed to pass off into the room.

The port dryer has certain advantages and disadvantages, depending

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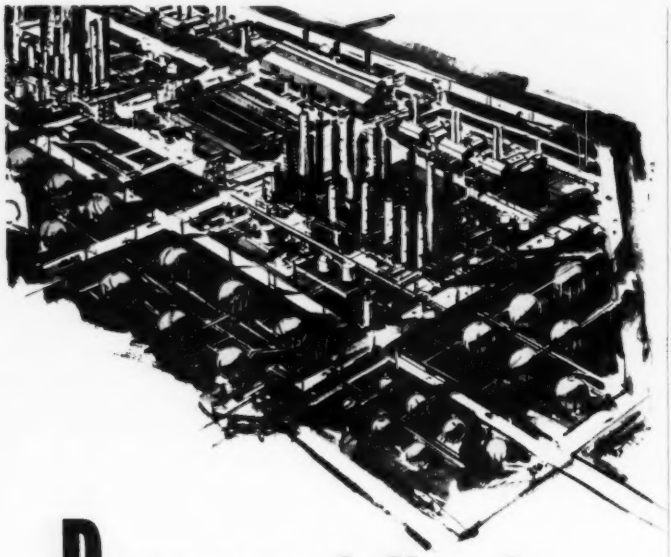

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Questions and Answers

(Continued)

on labor costs, power costs, and money available for capital investment. Many mills are using port dryers quite satisfactorily and economically.

Technically, the port dryer presents minor control problems in maintaining proper temperature and air velocity. There are optimum levels of both for fast, economical drying without damage to the yarn.

The second type of dryer mentioned, which forces air from the outside to the inside of the package, is not commercially practicable at present. So far, no commercial dryer has been made to utilize this principle.

The third type, in which air is not forced through the yarn package, is the oldest type of dryer now in use. It is represented by the drying oven in which yarn packages are placed on trays and the trays inserted into the heated oven. Drying takes place on the surface of the package, with moisture being drawn by capillary action from the inside to the outside of the package.

This process is exceedingly slow and sometimes injures the yarn by the high temperature needed for anything like efficient operation.

One of the latest developments in package dryers is a machine that employs the principle of forcing hot air from the inside to the outside of the package, reheating it, and blowing it over the outside of the package. Advantages claimed for this type of machine are the moderate temperature required and the short drying time necessary.

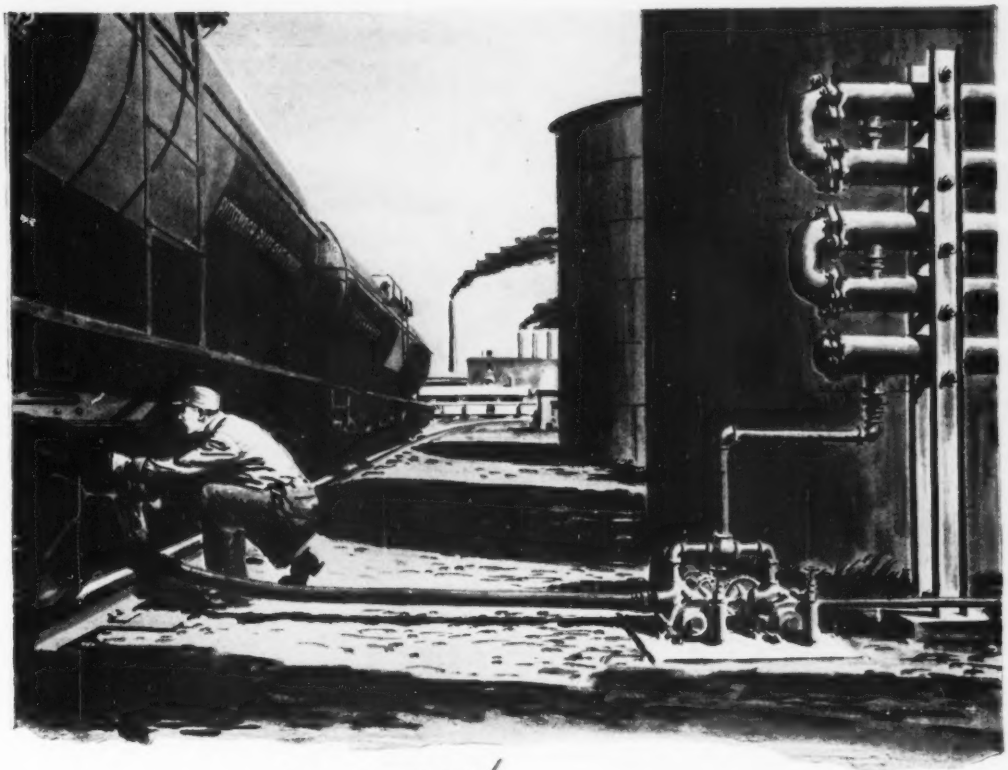
Several Solvents Used To Remove Oil Spots

Technical Editor:

We understand that mills in the United States use a small press that combines steam and some other medium for removing oil stains from fabrics. Can you tell us something about the machine and the agent that is combined with steam? (9323)

We have never heard of a steam press being used for removing oil stains. If there is such a piece of equipment in use, it has escaped our notice. Many mills employ a "spot remover" where they have oily ends or where oil drips on goods.

Gray mills often use pure oleic acid or red oil, this material being daubed on the oil spot. The theory is that the red oil will later on be saponified by the caustic soda employed in the boiling-out operation. This saponified substance in turn makes an intimate emulsion with the oil or



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Questions and Answers (Continued)

grease originally on the cloth and is removed.

Often solvents such as tetralin, hexalin, gasoline, xylol, and white kerosene may be used along with the red oil. One objection made by finishing plants to the use of such solutions is that they tend to leave a circle in the goods, especially when oils and solvents of the highest quality are not used. In goods to be dyed, these circles or spots show up as heavy places. Even though the original black oil spot may be removed, the remedy sometimes proves worse than the original trouble.

In treating oil spots that occur in finishing, a mixture of soap and some of the solvents mentioned is an efficient way of getting out drip spots. The goods, of course, must be returned and be desized and scoured.

Small-Lot Dyeing Requires Premium Prices

Technical Editor:

Is it commercially practicable to operate a small package-dyeing machine, say of 100-lb. capacity? Can you give me some idea of the price range charged for dyeing yarn? (9337)

The only way to make such a venture practicable probably would be on a premium basis. Dyeing packages in such small quantities no doubt would make the costs of interest, depreciation, and other necessary overhead a heavy burden.

Dyeing costs per pound of yarn would depend, of course, on the type of dyestuffs used and the dyeing process necessary to obtain the desired shade. Chemical cost can range from 10¢ per 100 lb. of yarn for a pale direct shade to $50 per 100 lb. for a vat black. Water and steam for dyeing and drying would cost approximately ¼¢ per lb. of yarn.

Commercial dyeing prices vary from 20¢ to 75¢ per lb., depending on the type of dyeing. To these prices are added premiums for small lots of yarn.

Ultraviolet Light Develops Print Colors

Technical Editor:

Have any vat colors that can be dry developed by exposure to air after printing and before finishing been developed in this country? (9338)

There are several types of vat colors that can be dry developed after printing. As a matter of fact, the standard vat colors generally available on the market will develop on exposure to air if they are reduced with the usual

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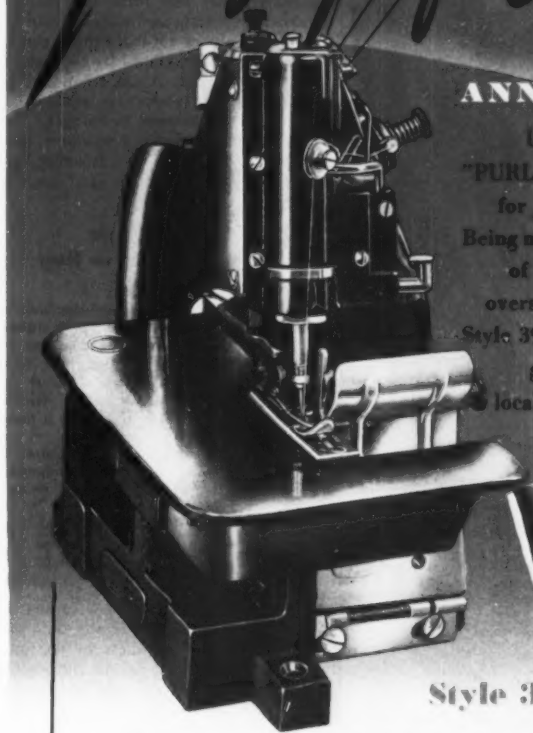

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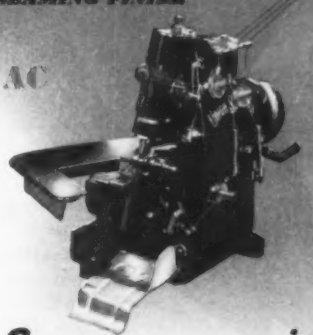

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All wood for Lowell Products is well seasoned and kiln dried. Every operation is performed in our own shop to control quality and speed up deliveries. Any desired finish can be furnished. May we hear from you?

LOWELL SHUTTLE COMPANY

Established in 1896

15 TANNER STREET • • LOWELL, MASS., U.S.A.

Questions and Answers

(Continued)

carbonate and hydro reduction agents prior to printing.

In machine printing where plants operate on volume yardage, this method has not been too practical when large-scale production is involved.

The sulphur vat-leuco esters can be printed and developed by exposure to ultraviolet light. Again, when used on large-yardage production, such colors are often developed in an ager.

For small-volume production, however, development by ultraviolet light has proved practical in most cases.

Loose Stuffer Beam Causes Wrinkles in Rug

Technical Editor:

What are the causes and methods of correcting or improving a "loose stuffer" in a velvet-type carpet? In case you are not familiar with the terminology, a "loose stuffer" is referred to when a carpet will not lie flat but has warpwise wrinkles throughout it. The stuffer we use is three-ply jute sized.

Is it caused by beaming the stuffer? Is it caused by the weaver not tightening the stuffer beams evenly or tight enough when the beams are first tied?

What are some methods for evenly controlling the tension of the two beams?

Can this condition be controlled, or is it unavoidable to a certain extent? (9339)

Your trouble probably is caused by the pile warp running tighter than the stuffer warp. Slackness in the jute stuffer warp would permit the stuffer to run looser and gain in length slightly and steadily over the pile. This condition would create the effect you described.

It is possible that the looseness in the stuffer warp could be caused in beaming. In running such a construction, it is usually advisable to do your beaming under as much pressure as the warp will stand and try to distribute tension evenly on the beamer. You know, of course, that jute yarn when sized has very little resilience. Tension, therefore, on all ends of the warp must be equalized, as the yarn has no elasticity to offset uneven tension.

Controlling tension on the loom in order to obtain even tension can be achieved by compensating for the condition observed in the material coming off the front of the loom, rather than by any mechanical adjustment. After the rug or other material has been woven and has passed the pin roller, the weaver should be able to see whether his goods are satisfactory and to make adjustments necessary to correct any faults.

if it's *Schollerized* Wool–

THROW IT IN THE WASHER AND WASH IT!...

The PLUS-VALUE that Schollerizing gives to any wool product warrants your interest in this great wool shrinkage-control process. The amazing simplicity of application, the consistent uniformity of results, gives Schollerizing a preferred position in the field of wool shrinkage control.

YOU CAN safely allay wool washing fears of the customer if your wool product is Schollerized. No need to give the myriad washing cautions so familiar to the user of wool products because Schollerizing makes wool *truly washable!*

Schollerized wool is as nearly shrinkproof* as it is possible to attain . . . it will never mat and felt . . . the natural texture, quality and character of the wool remains unchanged for the life of the fabric — regardless of how many times it is tubbed and rubbed.

*Shrinkage controlled to within 2%

Schollerized
WASHABLE WOOL
SAFE TO TUB • SAFE TO RUB

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Manufacturers of Scouring, Dyeing and Finishing Materials

COLLINS at WESTMORELAND, PHILADELPHIA 34, PA.

IN CANADA: SCHOLLER BROTHERS, LTD., ST. CATHARINES, ONTARIO

SERVING THE TEXTILE INDUSTRY FOR MORE THAN FORTY YEARS

and be sure of getting

DIXON QUALITY!

FAMOUS SINCE 1876

LUBRICATING SADDLES • ADJUSTABLE LEVERS • LEVER SCREWS • LOCKING STIRRUPS

SLIPWOOD BEARINGS • LUBRONZE BEARINGS
SLIXONICE SADDLES • SLIXONICE CAP BARS

(The new saddles and cap bars that never need lubrication)

For nearly three-quarters of a century the name Dixon has been synonymous with quality. Backed by a solid performance record, genuine Dixon saddles are in use everywhere in textiles!

Specify **DIXON! Get DIXON Quality!**

Such universal acceptance means that whatever your saddle requirements, Dixon can supply them. Hundreds of different types of saddles . . . stirrups . . . levers . . . lever screws . . . all of these plus specially engineered weighting assemblies are available at Dixon — saddle headquarters for the industry.

Specify **DIXON! Get DIXON Performance!**

Although most new machinery is delivered equipped with Dixon saddles, remember to specify Dixon — and be sure.

Specify **DIXON! Get DIXON Service!**

Remember, Genuine Dixon Saddles Can Only Be Obtained Through Our Southern Representatives, New Machinery Manufacturers or From Our Main Plant In Bristol, R. I.

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Covering Georgia, Alabama, Mississippi, Louisiana, and Tennessee

DIXON
LUBRICATING SADDLE CO.
Established 1876
BRISTOL, RHODE ISLAND

Apex Modernization

(Continued from page 135)

The three-year program consisted of these three components:

1. New machinery
2. Expansion of air conditioning
3. Use of glass block in all window openings

30-SECTION MACHINES. Foremost in the program was the acquisition of new knitting machinery to raise production levels and to replace outmoded equipment. A number of 30-section knitting machines, furnished by Textile Machine Works, were installed. They represent an investment of $3,000,000. Other new equipment included a battery of preboarding machines.

Because of their complexity and close operating tolerances, the new knitting machines require rigid control of atmospheric conditions. Any deviation means time-consuming mechanical readjustments and production losses. Hence air conditioning the entire six-story plant was the next logical step.

The air-conditioning system was designed by Carrier Corp. in collaboration with Apex management. It consists of two main systems that supply 300,000 cu.ft. of air per min. The air flow is chilled in summer by two centrifugal-type compressors. This equipment, the cooling tower, and circulating pumps are located on the roof to conserve space. All supply and exhaust ducts are installed on the outside of the building—another arrangement to conserve valuable manufacturing floor space.

The third component, the replacement of steel sash with glass-block panels, is directly associated with the air conditioning. It insures important economies in the conditioning operation because of the reduction of winter-heat loss and summer-heat gain. The fenestration was installed under the guidance of American Structural Products Co., manufacturers of Insulux glass block.

TESTED SINCE 1935. Beside insulation, other factors influencing the choice of glass block included those of low maintenance costs, reduction of downdrafts, and elimination of glare on bright days. The decision was cinched by the record of three panels installed in the dyehouse in 1935.

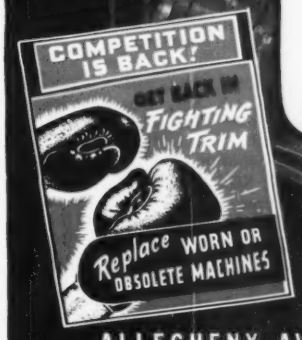
The ordinary sash in the dyehouse had needed continual repair. Despite exhaust fans, the windows were coated with moisture or frost most of the time. The condensation not only rusted frames and sash bars, but

Uniform Dyeing

of 2-3 or 4 Beams or Yarn Carriers

in the SAME machine

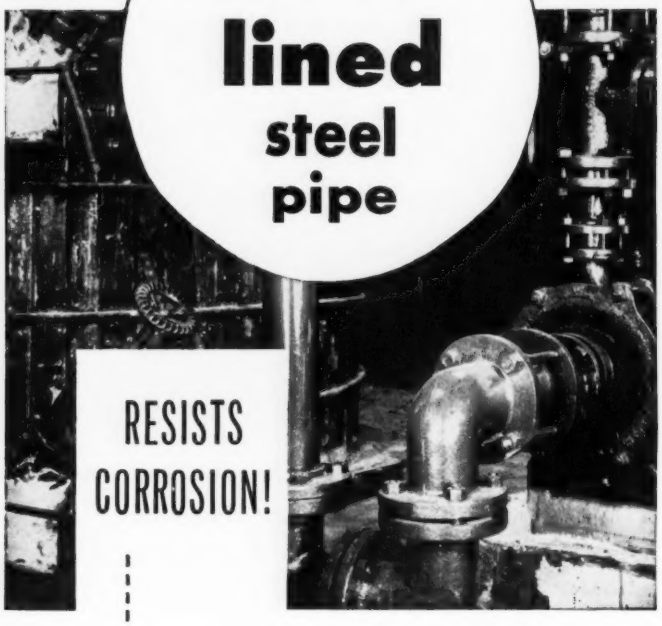
The SMITH-DRUM "Cloverleaf" Combination Beam and Package Dyeing Machine is a revolutionary development which permits the dyeing of *two, three* or *four* beams or yarn carriers in the *same* dye bath, at the *same* time, under the *same* operating conditions, with the *same* liquor ratio. This assures *absolute uniformity* in dyeing because each beam or yarn carrier is processed under identical pressure, temperature, flow and with uniform distribution of additions to the dye bath. If all kiers are not in use, pressure and flow may be adjusted so that they remain the same as when dyeing a full load. All machines are equipped with valves to permit extraction with air before the yarn is removed from the dye tank. Catalog on request.



SMITH, DRUM & COMPANY

ALLEGHENY AVENUE AT 5th STREET, PHILADELPHIA 33, PA.

saran lined steel pipe



RESISTS CORROSION!

reduces shut-downs!
readily field-fabricated!
available immediately!
lower in cost!

Saran lined steel pipe is available in maximum lengths of 10 feet and in sizes from 1 to 4 inches inclusive.

Also available are saran lined plug valves, flanges, reducing flanges, flanged fittings, gaskets and fittings with union ends.

Write us today for further information concerning saran lined steel pipe and how it may solve your problem.

Manufactured by The Dow Chemical Company, distributed nationally by Saran Lined Pipe Company.

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DOW
CHEMICALS INDISPENSABLE TO INDUSTRY AND AGRICULTURE

cracked the sills during freezing weather.

Glass block, which contains a partial vacuum in its hollow interior, provided the necessary insulation and the remedy. The dyehouse panels have not been touched since the original installation.

Thus, when insulated fenestration was specified to insure maximum efficiency of the air-conditioning system, the performance of those panels convinced management that the quest for the ways and means was ended.

Other important economies were also realized with the new fenestration. Since 1923, when the plant was erected, a four-man painting crew had devoted countless hours to painting sash inside and out. During the war, $9,000 was spent reputtying the sash. Another maintenance cost eliminated involved exterior window washing. Because the panels present a smooth surface, nature does an adequate job of keeping them clean.

NO BLINDS. Dispensing with window blinds also accounted for substantial savings in upkeep and replacement, plus a real improvement in seeing conditions. Previously, blinds were used throughout the plant; and in several locations they were a source of contention. In certain seasons, it was impossible to reduce glare without closing the slats and darkening the area. Employees' complaints mounted; so did repair and maintenance expenses.

Blinds are no longer needed because of the block patterns used in each panel. Insulux light-directional block is used in the upper two-thirds of the panel, with another pattern in the lower part. The prisms on the inside face of the prismatic block direct the light rays towards the ceiling from where they are reflected deep into the room onto working surfaces.

The pattern used in the lower part of the panel diffuses rather than redirects the strong daylight. The result is an even distribution of daylight with a minimum of glare, a decided improvement over the previous method of introducing daylight.

The decision to use solid panels of translucent block without benefit of vision sash has aroused widespread interest in the hosiery field. It has paid off in many ways. There is constant control of atmospheric conditions. Spoilage of finished hosiery by air-borne dirt is eliminated because there is no seepage through the windows. The dust hazard has been reduced further by the use of electrostatic filters which serve both the new and old air-conditioning systems.

CONSTANT CONTROL. The rigid controls providing constant temperature

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Stainless in Industry

WHY is stainless steel equipment becoming so increasingly important? WHAT are the specific applications? HOW about grade selection, corrosion resistance, forms available, and fabrication?

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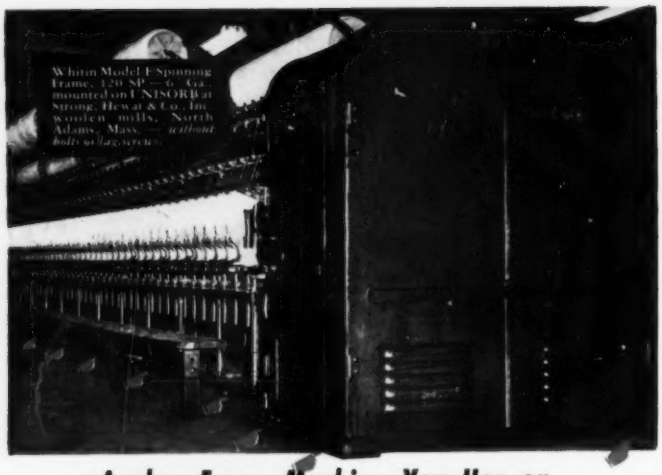
Whitin Model E Spinning frame, 120 SP. x 6 Ga., mounted on UNISORB at Strong, Hewat & Co., Inc. woolen mills, North Adams, Mass. — without bolts or lag screws

Anchor Every Machine You Use on

UNISORB

...NO BOLTS NO LAG SCREWS

- No Drilling... No Floor Damage
- VIBRATION and Noise Reduced up to 85%
- Materially reduces machine maintenance
- UNISORB pads need no care, last for years and years and years
- Unaffected by oil or grease

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Gentlemen: Please send my free copy of "Why It Pays to Anchor Your Textile Machinery with UNISORB." ( )

NAME ..... TITLE .....
COMPANY NAME .....
STREET .....
CITY ..... STATE .....

and humidity conditions have resulted in a greater percentage of uniform hose. And the nuisance of matching irregular hose lengths has been sharply minimized.

The controlled humidity level in the plant is now so stable that outside weather changes have no effect on Apex operations. The yarn-conditioning boxes provided with the machines have been inoperative since the switch to overall air conditioning. Defects in knitting and all other auxiliary operations have been greatly reduced.

In addition to saving time and material, increasing output, and improving working conditions, the modernization has, in effect, assumed the character of preventive maintenance.

By excluding dirt and dust and by establishing uniform atmospheric conditions, the delicate plant equipment requires a minimum of adjustment and repair. A more uniform and constant output has become an actuality.

Timestudy Procedure

(*Continued from page* 126)

in Column 2 are obtained by actual timings and are reduced to decimal minutes for convenience in adding and multiplying. Best results are obtained in these timings by taking a group of ten or more consecutive timings and averaging the totals. This procedure eliminates many errors in individual timings.

The frequency of repetition for one card is placed in Column 3. The product obtained by multiplying Columns 2 and 3 gives the total time spent on each task for one card. The sum of these individual products placed in Column 4 gives the total time for all the tasks for one card. Multiplying this final sum by the total cards run gives the total time for the full job. The percentages of total working time and rest time are shown. Most job assignments call for 15% to 20% rest time.

Any timestudy can be laid out in a simple, easy-to-explain and understand form, similar to the one shown. This simple layout should go a long way in removing much of the prejudice and distrust inherent in timestudy. The unit time allotted to each task is the only factor that may be questioned. It is simple to establish unit times for all these tasks that will be fair and agreeable to all.

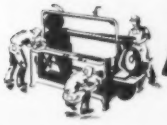
ADVANTAGES OF SIMPLICITY. There is a big advantage in laying out job assignments similar to the one shown. Any change in the tasks included in each job permits a readjustment of

SKILLED HANDS OF THE LOOM ENGINEER

now go to work right in YOUR PLANT!

Wilson's unique Loom Rebuilding Methods allow Modernization without excessive profit losses!

The Emil V. Wilson Company is a unique organization of specially skilled loom mechanics and engineers, fully experienced in the rebuilding and modernization of looms. The work is done quickly and efficiently, right on the weave room floor. On jobs involving large numbers of looms a completely rebuilt loom can be returned to production every 30 to 40 minutes! No longer is it necessary to ship your looms away for rebuilding at great expense and sacrifice of valuable production. It will pay you to investigate Wilson's unusual "assembly line" methods of Loom Rebuilding. A telephone call or letter will bring you full particulars on how this new plan can save you hundreds of dollars when you modernize your weave room.



Emil V. Wilson Co.
201 WOODSIDE BLDG. ANNEX TELEPHONE 5-5342
Greenville, South Carolina

LOOM MODERNIZATION SPECIALISTS

Stainless Steel
FOR THE TEXTILE INDUSTRY

5 - 10 - 20 gallon Stainless Steel Dye Buckets specially fabricated to order.

More and more textile manufacturers are becoming aware of the appreciable savings in production through the use of *Stainless Steel* in all wet processes.

The Dye Buckets, as illustrated above, are specially fabricated to order in capacities of 5-10-20 gallons. Use of stainless steel in these buckets permits colors to run true in successive runs, as almost any dye or chemical remains unaffected by metallic contamination.

***Truitt's* engineering service in the fabrication of carbon and stainless steel is available to the textile, chemical, pulp and other industries. Should your need be tanks, vats or other equipment, remember . . . *Truitt*, one of the South's larger fabricators, will gladly figure your job, without obligation or cost to you.**

Fuel Tanks Vats
Stainless and Carbon Steel Fabrications

TRUITT
MANUFACTURING COMPANY
• GREENSBORO, NORTH CAROLINA •

task elements without overloading individual workers.

Possibility of changes in assignment are shown in Column 5, where job values are given in a case where the task of stripping cards was taken from the tenders. These figures show clearly that the reduction in the tenders job was equivalent to the remaining tasks on 11 cards. Job elements and time values are easy to explain to the help when any changes are found advisable in task assignments. The procedure prevents distrust or dissatisfaction when changes are made. Simple figures can be used to prove that the actual work on the new assignment has not been increased.

Many mills that have installed either continuous strippers or vacuum strippers have found it advisable to relieve the card tenders of all or part of their stripping duties. This arrangement has removed the most disagreeable and objectionable part of the card tender's job. It is a simple matter to adjust for this reduction in duties when the time value of each job function is known.

The same principles used on the card tenders job can be applied to any job in the plant. There is one rule that is of foremost importance in any timestudy. It can be expressed in one short sentence: *Keep It Simple.*

It must be remembered that it is not sufficient for only the timestudy expert to understand the figures and mathematics involved. The department head, supervisors, and workers should also fully understand the elements and time values of their jobs and the principles of job assignments. If this procedure is followed, it will increase the worker's satisfaction, promote better cooperation, permit job readjustments, and prevent future trouble and dissatisfaction.

Picker-Lap Scale

(*Continued from page 136*)

The lap weight is printed by the scale in a few seconds, and there is no delay for the operator. In fact, there may be a small time saving. In any event, he can leave the lap on the scale any length of time he wants while he attends to blending feeders or other equipment. The scale shutter reveals the weight figure as long as the lap remains on the scale. When Gregory removes the lap, the shutter once more closes over the dial.

The new scale eliminates waiting for the mechanism to come to rest. It does away with bookkeeping and permits concentration on the operation of the equipment and on keeping

Rayon Reports

Washability a key to expanding rayon markets

In assessing the future of rayon it becomes more and more apparent that washability can provide one of the surest routes to expanding markets. Mills with a forward-looking point of view have already discovered that it is good business to recognize the opportunities inherent in washable rayon fabrics. In order to realize the full possibilities they are not only working closely with their customers in giving special attention to the most suitable constructions, but they are acquainting themselves with the important advances in dyeing and finishing that have today made washable rayons a practical reality.

The success of these new processes in attaining a fabric that can be washed by standard methods without fading, shrinkage or change in fabric character is being demonstrated every day. Stores the country over report that never before have consumers been so insistent that rayon shirts, lingerie, blouses, dresses, curtains and other articles of merchandise withstand ordinary laundering.

This demand shows the direction in which the rayon industry must move if its past record of growth is to be extended in the future.

By encouraging greater usefulness for rayon through technical improvements not only in weaving but in dyeing and finishing, rayon will be able to enter many new markets.

Filatex Corporation Now Division of Avisco

New York, Oct. 1 – The Filatex Corporation, a wholly-owned subsidiary, became the Filatex Division of American Viscose Corporation, the parent company on October 1.

Filatex makes a widely used brand of elastic yarn under that name. It has a latex core continuously produced by a unique patented process which results in such advantages as superior aging properties. The core is made at the Fredericksburg, Va., plant of Avisco's Sylvania Division, and shipped to Avisco's Roanoke, Va., plant, where it is covered variously with rayon, nylon, and cotton. Filatex is used chiefly in women's foundation garments, the tops of men's half hose, and in bathing suits.

RAYON 20 YEARS AGO

PARIS, November, 1929 – A suit of shantung rayon was the hit of the just completed Biarritz season. The same fabric is being promoted for Riviera wear.

NEW YORK, November, 1929– American producers have organized the Rayon and Synthetic Yarn Association to promote the use of rayon fabrics. S. A. Salvage, of Viscose Co., has been elected first president.

NEW YORK, November, 1929– Manufacturers are reviewing many requests for information about rayon fabrics from tropical countries. Calls are reported from as far as Singapore to learn about the rayon chiffons for hot-climate wardrobes.

MAKE USE OF *Avisco* 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION

America's largest producer of rayon

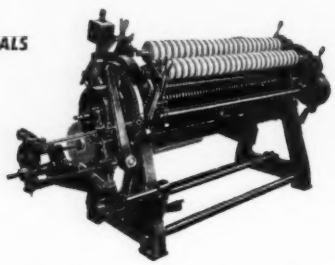
Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

Camachines

. . . for men with ideas

With more than twenty different models for the textile industries to choose from, Camachines offer a practical answer to every slitting and roll-winding problem. Illustrated below are four typical Camachines for men with ideas about increased production, improved quality and lower costs . . .

TACKY MATERIALS

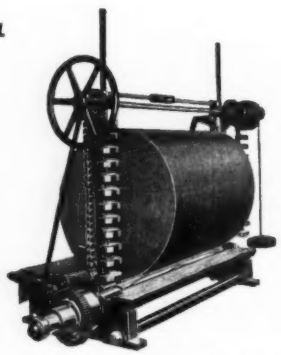


CAMACHINE 26-3A is especially designed for handling tacky or unevenly coated materials, such as adhesive tapes. Machine widths 26" to 56". Accommodates a 32" diameter mill roll. Rewinds rolls as narrow as ½", or up to 17¼" in diameter. Operates at speeds up to 400 fpm.

BIAS BINDING

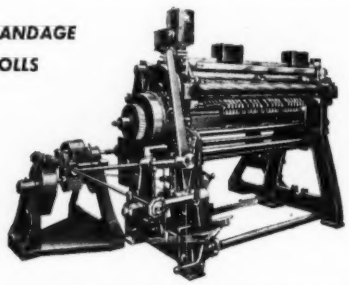
CAMACHINE 40-3L is the ideal machine for converting straight and bias binding fabrics (also specialty fabric) into strip in rolls. Machine widths 26" to 56". Accommodates material from roll, piece or fold. Rewinds rolls as narrow as ½", or up to 22" diameter. Speed up to 150 fpm from fold; higher from roll.

LOW MODEL WINDER



CAMACHINE 44-W low model winder operates in conjunction with processing machines as in bleacheries, fabric printing plants and bag factories. Available in machine widths from 32" to 82". Produces firm, uniformly rewound rolls up to 36" in diameter at speeds up to 1000 fpm.

BANDAGE ROLLS



CAMACHINE 40-4B, a semi-automatic machine for fast production of gauze bandage rolls. Machine widths 42" to 50". Accommodates 24" diameter mill roll. Rewinds rolls as narrow as ½", or up to 12" diameter. Machines come equipped with automatic stop for producing rolls of predetermined length.

Cameron Machine Company, 61 Poplar St., Brooklyn 2, N. Y.

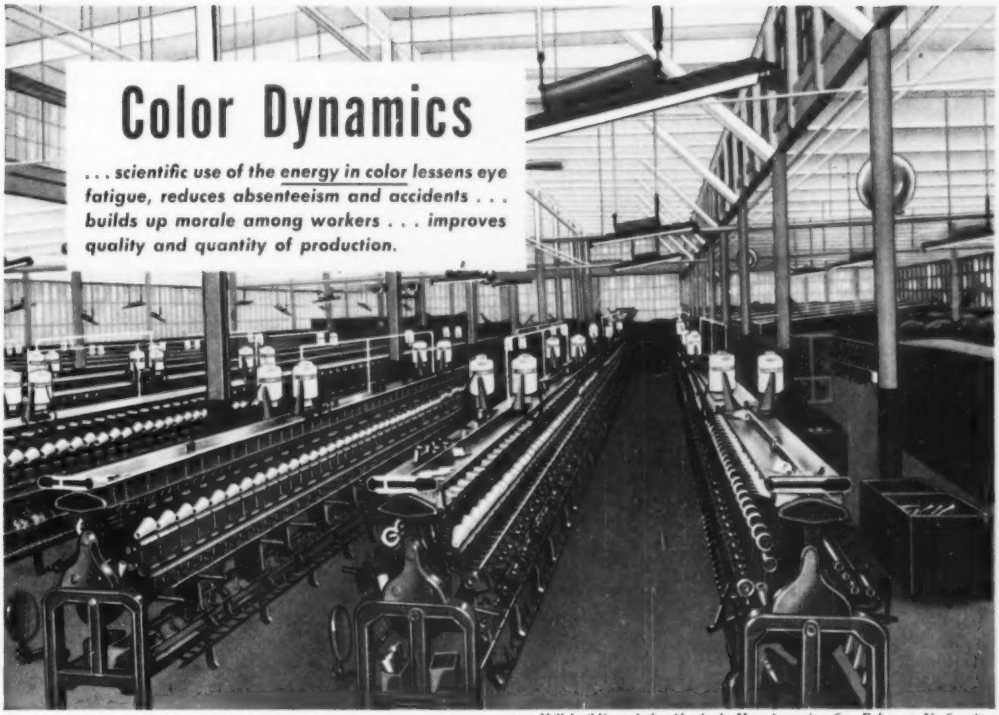
WRITE FOR LITERATURE

Camachines

FOR FAST, TOP QUALITY ROLL PRODUCTION

. . . the world over

AA—188


Color Dynamics
. . . scientific use of the energy in color lessens eye fatigue, reduces absenteeism and accidents . . . builds up morale among workers . . . improves quality and quantity of production.

Mill building of the Aberfoyle Manufacturing Co., Belmont, N. C., after it was repainted according to the principles of COLOR DYNAMICS.

Pittsburgh's New Painting System Benefits Workers and Management Alike in Aberfoyle Mills' Plant!

IT IS not surprising that production executives and workers alike have expressed great interest in Pittsburgh's COLOR DYNAMICS.

This new method of painting is based upon the scientific fact that the *energy in color* has a definite influence upon the physical, mental and nervous systems of human beings.

Actual experiences have shown that in plants which utilize Pittsburgh COLOR DYNAMICS both labor and management have benefited. Continuity of employment is increased, efficiency of operation is improved. Quality and quantity of production are maintained at high levels.

Characteristic of the benefits produced by the painting system of COLOR DYNAMICS are the results in the plant of the Aberfoyle Manufacturing Company of Belmont, N. C.

"We painted our mill buildings according to your principles of COLOR DYNAMICS," writes W. H. Crenshaw, plant manager. "Such use of specific colors has many advantages. It is helping us to maintain higher employee morale, a good safety record and efficient, improved production throughout our organization."

Hundreds of plants in many industries have enjoyed similar experiences in recent years. Where these principles have been applied, workers' eye fatigue has been lessened. Absenteeism and the risk of accidents have been reduced. *More work per man-hour and more man-hours per man have resulted.*

You Can Obtain a COLOR DYNAMICS Engineering Study of Your Plant — FREE!

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Actual Results of one Textile Mill's Operation after installation of York Air Conditioning

1. 35% fewer rejects
2. 22% increased summer production
3. *Pays for itself in 5 years*
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YOUR competition is producing under conditions of climate and labor-supply that are increasingly more favorable. This fact makes it important to acquaint yourself with the advantages of York Central Station Air Conditioning.

The facts at the left—taken from a report of a progressive textile mill—are conclusive. They explain why those responsible for maximum uniform production at minimum overhead confidently face any future competition.

To make sure you leave no stone unturned in securing profitable production, consult a York Air Conditioning Specialist. He has a wealth of practical technical data about your industry. He understands your particular problem and will be glad to assist you in your planning and provide useful data for your plant engineer, consulting engineer or mechanical contractor. For further information drop a line today on your own letterhead to York Corporation, York, Pennsylvania.

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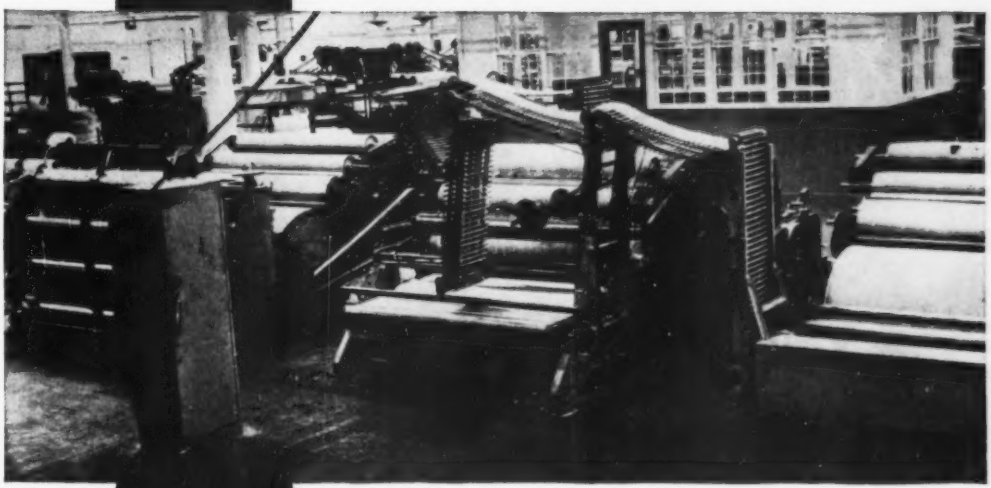

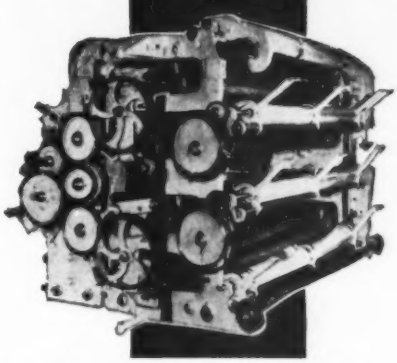

Special design features of the Tape Condenser give positive and even division of the web—tapes do not steal from each other.

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1. Large doffers for better carding, resulting in stronger yarns at higher production rates plus less frequent machine outage for stripping.
2. Greater yield through minimum loss of stock.
3. Thorough blending, effecting better manipulation and more economical use of stock.
4. Wide range of speed adjustments at all points enabling the machine to accommodate all types of materials and make roving from the coarsest to the finest counts.
5. Carefully machined rolls, accurately mounted, permitting uniform close setting of workers and strippers.
6. Two intermediate side draw feeds which will handle long or short fibres.
7. Feed hopper of large capacity with a very accurate weighing mechanism.
8. Low overall height for unobstructed vision over the machine and ready removal of workers and strippers.

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RIDGID's New Tristand is now your on-the-job work bench

Legs fold in and chain for easy carrying. With new tray Tristand won't fold up in use.

. . . Trays available for your old model Tristand.

● All your tools are ready at hand, with this new RIDGID work-saver pipe vise. Tool tray keeps them in easy reach—eliminates stooping, speeds up work. New Tristand is easy to set up and take down, tray attaches in a jiffy. Legs have rubber feet to prevent "creeping." RIDGID's LonGrip tool-steel jaws have bulldog grip but are easy on polished pipe and tubing. Yoke vise, 2½" capacity; chain vise, 4." Buy the new work-saver RIDGID Tristand from your Supply House.

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the evener motion adjusted and the weights accurate.

If his lap is within tolerance, the scales print the letters "OK" opposite the weight figure on the tape. Neither does the operator have to bother with the tape device. The tape is always locked in the scale and is removable only by authorized personnel.

MILL'S QUALITY. From the mill standpoint, the new scale, developed by Deane Armstrong, Toledo Scale Co., Charlotte, N. C., representative, fits in with an already functioning quality-control program for its fine 1 5/32-in. cotton being made into average-numbered combed yarns. It backs up an idea previously held by Globe president C. S. Clegg, that shorter stops for doffing on the picker are great aids to quality, since they reduce the time that a portion of the cotton is exposed to the action of the beaters, which continue to turn even when the picker is stopped for doffing.

Materials Handling

(*Continued from page 153*)

From the picker room to the cards the lap is still handled in a great many mills on special lap trucks, although there is an application here, particularly if distance is involved, to employ tramrail or trolley-driven overhead conveyors. The adoption of conveyors for lap handling is much more simple, however, if the laps are all alike and no selectivity is involved.

Of tremendous importance in most mills is the job of handling yarn, both filling and warp, through the processes of spinning, spooling, warping, slashing, and weaving. Distance handling and storage between processes complicate the problem and accentuate the need for efficient mechanized equipment. No single criterion or pattern can be given, as much depends on individual plant layout. The solution may be in the adoption of belt conveyors, power trucks, tramrail truck, or bridge systems, or automatic dispatch systems, or even a combination of these.

YARN HANDLING. In general, of course, yarn on quills, bobbins, or cones is best handled in boxes, box trucks, rack trucks, or in bulk on conveyors. Conveyors are also quite adaptable to the handling of empty quills and bobbins in bulk. For example, a horizontal belt conveyor can be placed immediately under a Barber-Colman spooler, receiving the empty bobbins at either discharge end of spooler and discharging them on to an inclined cleated-belt conveyor

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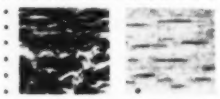
1 **Requires less manhours** for floor maintenance because floors can be cleaned *faster* . . . stay clean longer. Unlike rough, dirt-catching scrubbed floors, Tennant-cleaned floors are smooth, hard, dirt-resistant . . . clean up like magic! Saves time and expense.

2 **Makes floors easy to clean.** Fast, low-cost "dry cleaning" with a Tennant Machine keeps floors bright, durable. Only daily care is dry mop sweeping.

3 **Cuts accident costs.** Helps keep floors DRY and safe. Aids morale.

4 **Makes floors last longer** by protecting against dampness, decay and wear.

5 **Helps prevent losses** of yarn and cloth from splinter-snags and dirt.



HERE'S WHAT HAPPENS when you stop scrubbing your floors and switch to economical Tennant "dry cleaning."

Microphoto at left shows typical surface of a scrubbed floor. Note how water has broken down top wood structure and caused rough, jagged, dirt-catching splinters. This makes floor hard to clean, and it breaks down rapidly under heavy traffic.

In contrast, microphoto of a Tennant "dry cleaned" floor (right) shows how the bright, smooth, protectively sealed floor resists dirt and wear . . . and is easily cleaned with minimum manpower.

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which conveys them to bin storage on any floor above. Similar conveyors are used for handling empty quills from quill strippers back to spinning-room storage.

Section and loom beams are most successfully and safely handled on overhead tramrail track systems, which may be a simple single rail or have cranes, interlocking bridges, or automatic-dispatch features. Track scales not only simplify weighing operations but also preclude the possibility of oversight in taking a weight, since each load must pass over the scale in the fixed route. The overhead handling of loom beams in the weave room permits the use of larger beam heads, toward which there is a definite trend, with narrow aisles, because the load is handled overhead and not through the aisles.

Now that we are in the weave room, the next problem is cloth handling; and often the cloth room is some distance away. Generally speaking, the cloth should be accumulated in given areas and then carried from the weave room by power trucks, conveyors, or tramrail, depending upon plant layout, volume, and distance to be conveyed.

Greatest results can be accomplished in the adoption of materials-handling equipment by the survey method; which is to say, by engineering application based on sound technical knowledge, experience, and careful study of the problem at hand in relation to building conditions and manufacturing processes.

Picker Maintenance

(*Continued from page* 149)

ished product. Ragged selvages are usually caused by a bad screen or bad leather around a screen. If the leather is not stiff enough, it will soon wrinkle and cause chokes to form, especially around the ends of the screens.

Section hands must be certain that screens are properly picked by operators at least once a shift. Overhaulers should check and replace all bad leather each time the machine is overhauled. Feed rolls must be set properly and kept free of burrs so that cotton will feed evenly and not lap up. Dampers and fans should be adjusted correctly by the overhauler and periodically checked by section hands to be certain that cotton is being correctly placed on the screen.

BEARINGS. Proper maintenance of both anti-friction and friction bearings is also important to quality. All open friction bearings should be equipped with oil pipes and section hands trained to oil them correctly. Putting

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For hosiery, weaving and tricot yarns Stantex tested and proven oils of uniform high quality and stability insure—

- **Protection and lubrication for yarn and size**
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STANTEX 125 **STANTEX 127**

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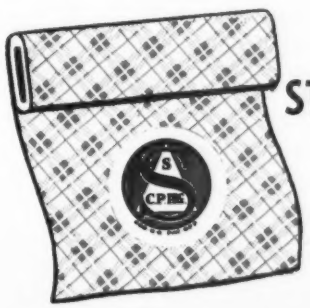

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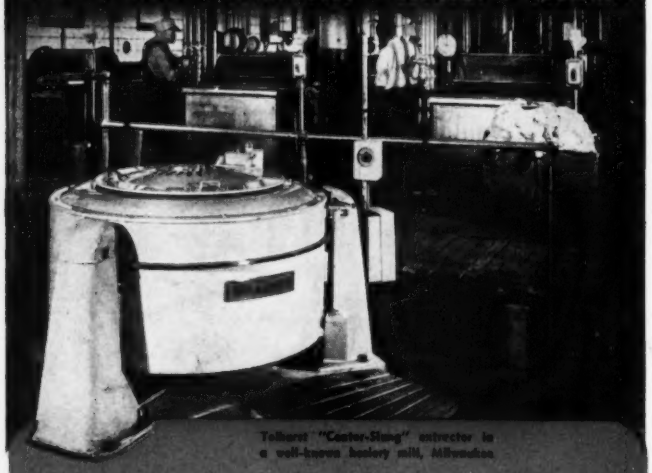

Tolhurst "Center-Slung" extractor in a well-known hosiery mill, Milwaukee

TOLHURST "CENTER-SLUNG" EXTRACTORS
Especially Designed for Textile Mills

IN MODERN, progressive textile mills, where efficiency is the watchword, Tolhurst "Center-Slung" extractors have been acclaimed favorites for years. These sturdily constructed extractors provide high productivity at low cost, combining speed with economy in handling large loads. Tolhurst "Center-Slung" extractors run smoothly even with unbalanced loads, because baskets are free to find their own center of gyration. 40", 48", 60", 72" and 96" basket sizes. For smaller loads, Tolhurst extractors are also available in 20" and 30" diameters. Other Center-Slung features include stainless steel basket, automatic safety cover, and "V" belt motor drive.

Improved AUTOMATIC TIMER CONTROL

Makes operation automatic from the time "start" button is pushed to the moment the brake stops the finished load, after predetermined cycle. Standard equipment on 40" and 48" Center-Slung extractors and available at small additional cost on 60" and 72" Center-Slungs.

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Consult Tolhurst on all extractor problems. Tolhurst maintains a complete staff of experienced engineers with modern research facilities. Write for illustrated catalogs and prices on these Tolhurst textile extractors.

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too much oil in bearings will result in oil in the stock. Ball bearings should be removed, washed, and repacked with the proper-weight grease yearly. Bearings should not be doped over three times between cleaning, and then only lightly.

All beaters, screens, and open bearings should be inspected by the supervisor weekly and checked for replacement if necessary. Loggerheads and friction devices should be checked daily to determine if they are out of line or if brake shoes need relining. Usually, a look at the finished lap will indicate whether any adjustments are needed.

Controls for the humidification system must be checked periodically to insure proper moisture to maintain adequate waste removal by the picker.

When machines are being overhauled, gears should be cleaned and thoroughly inspected by the overhauler before they are put back on the machine. If one gear is badly worn and the others in the chain are good, it is good maintenance policy to remove all the gears and replace them with a new chain. All gears that can be used again should be saved by the overhaulers and used with other old gears on another machine. If this practice is followed, all gears will last longer, and the pickers will make better laps.

Ultraviolet Light

(*Continued from* page 145)

the ends in order to check that wrong yarns are not being introduced into the warp. This method often saves much time and trouble later in the dyeing and finishing.

DAMAGE CHECKS. Wool dissolved in alkali gives a strongly fluorescent solution. The limit of visible fluorescence in an alkaline solution of wool is of the order of one part in 100,000. Examination of liquors suspected of causing alkali damage is useful. Acid, alkali, and mechanical damage to wool can be differentiated by staining the wool with boiling 1% benzopurpurine 10B followed by washing. Mechanically damaged wool becomes pink, alkali damage shows up as a yellowish pink, and acid damage shows up a bluish pink, while undamaged wool remains colorless.

With regard to cellulosic fibers, it is possible to distinguish between acid- and chemic-tendered material by baking the fiber on a white tile at approximately 150° C. for 45 min. Chemic damage turns brown and gives a greenish-blue fluorescence, whereas acid-tendered samples show little change

THIS FIXTURE CARRIES THE RLM LABEL

Engineered and manufactured to meet rigid RLM standards, this DAY-LINE fixture is typical of all Day-Brite "Decidedly Better" industrials.

THE DAY-BRITE DAY-LINE* for two 40-watt lamps with TURRET* Sockets

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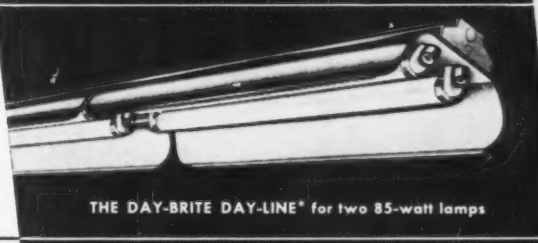
DAY-LINE steel reflectors are finished in vitreous porcelain enamel. Reflection factor is 82% or more. Lateral shielding angle is 13°.



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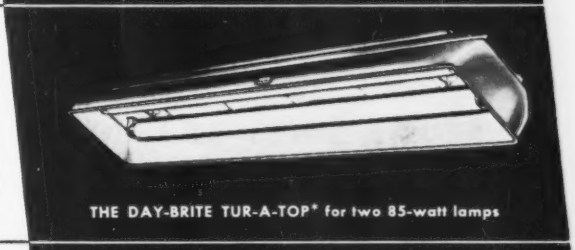
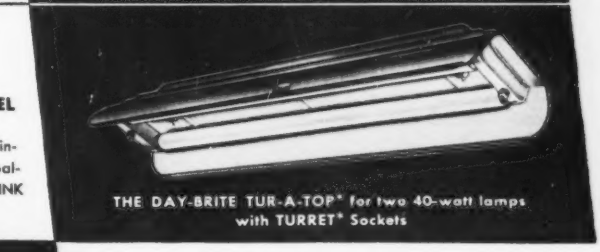
The sturdy TUR-A-TOP housing is die-drawn from one piece of steel eliminating mis-alignment and assuring a lifetime of stability.



THE DAY-BRITE TUR-A-TOP* for two 85-watt lamps

THIS FIXTURE CARRIES THE RLM LABEL

This TUR-A-TOP, like all Day-Brite industrials, is wired with Certified ballasts and is equipped with NO-BLINK type starters.



THE DAY-BRITE TUR-A-TOP* for two 40-watt lamps with TURRET* Sockets

409

In fact, every Day-Brite industrial fixture bears this positive proof of top quality and engineering . . .

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The point is this . . . if it's a Day-Brite industrial, it's a RLM fixture. Those two labels—Day-Brite and RLM—are your *guarantee* of year-in, year-out top performance at the lowest possible installation and operating cost. Before you plan your factory, plant or warehouse lighting, get the facts about "Decidedly Better" Day-Brite. Write TODAY for bulletins 30-A-3 and 30-B.

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Tabbing with tape stops torn end laps

When you do your tabbing with "SCOTCH" Textile Tape No. 916 you win back profits usually lost on torn or punctured end laps. This tough tape leaves no gummy residue to damage the fabric, permits "give" without loosening—even though fabric contracts on the roll. There's a "SCOTCH" Pressure-Sensitive Tape designed for almost every textile weaving operation. Warping, slashing, leasing, and tabbing are all done faster, better with these tapes designed to industry specifications.

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- **FAST**—on with finger-pressure, no special equipment needed.
- **NEAT**—requires no glue, moistening, or solvents.
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in color. Oxycelluloses generally give a brownish-white color under the lamp.

Uneven dyeings are often the result of the fabric becoming contaminated with mineral oil. Even minute traces show up brilliantly under the lamp. If the oil is dirty, the fluorescence may be masked; and under such circumstances, the suspected portion should be spotted with a drop of ether. If oil is present, a bright fluorescent ring will be formed. Heavy dyeings may also prevent the detection of mineral oil. In such circumstances, the dye should be stripped with the gentlest stripping agent possible; and if mineral oil is present, it will show up with its characteristic bright fluorescence. It is also to some extent possible to distinguish types of oil, as the tabulation, OIL IDENTIFICATION, shows.

In general, oxidation destroys fluorescence; and so oils applied to wool (and other materials) and then exposed to light and air become non-fluorescent. Vegetable oils which contain chlorophyll give a reddish fluorescence. The ultraviolet lamp can be used to check bulk deliveries of oil against samples.

Light damage shows up by making normally fluorescent fibers non-fluorescent. Bast fibers give a violet fluorescence which gradually darkens as exposure to light is prolonged. Silk on exposure gradually changes from its normal whitish fluorescence to a yellow color similar to raw silk. The fading of dyes can be more readily seen in ultraviolet light, and the marking off of certain vat dyes which is invisible to the human eye becomes apparent in ultraviolet light.

Some types of stains other than oil stains can be identified. Some of these are also shown in an accompanying tabulation, STAIN IDENTIFICATION.

The presence of fungi on textiles is often indicated by brilliant fluorescence. They may appear violet to pink-red in color. Bacteria also give strong fluorescent effects. The color of the fluorescence depends to some extent upon the substrata material and its pH. Ultraviolet light has a strong bactericidal action. This lethal action is materially assisted when the medium containing the bacteria has been treated with some fluorescent stain like eosin or fluoroscin.

FINISHES. With regard to dyes, the lamp is of little use in distinguishing between closely related dyes; but it can be used for ascertaining the group to which a particular dye belongs. For instance, dyes containing an "S" group or thiazole ring always show strong fluorescence. Also the derivatives of acridine, primuline, quinoline, and

SANTOMERSE No. 1

with direct-color liquor gives you level-dyed hose

Activate your dye liquor with from one to two pounds of Santomerse No. 1 per hundred pounds of hose and you will get rapid penetration even through packed stock. This gives you level shades . . . eliminates rejects due to uneven color. Result will be extra profit to you.

Then, after you have treated your hosiery with formaldehyde, potassium dichromate or copper sulfate, use a 1% bath of Santomerse No. 1 for your soaping-off operations. Santomerse No. 1 is stable in the presence of these agents, therefore removal of excess agents and quick, thorough rinsing will be obtained.

Santomerse No. 1 is the *all-purpose* synthetic detergent and wetting agent. It is used throughout the textile industry in processing cotton, wool and synthetic fibers. In addition to its high efficiency in wetting out and detergency, Santomerse No. 1 is effective as a penetrant, dispersant and emulsifier. It gives excellent performance in hard or soft water . . . in acid or alkaline baths . . . in hot or cold solutions. Santomerse No. 1 does not form insoluble curds and can be used as a solvent for such deposits made by other materials.

If you would like further information on Santomerse No. 1 or technical assistance on a specific problem, mail the coupon, contact the nearest Monsanto Sales Office or write: MONSANTO CHEMICAL COMPANY, Desk L, Phosphate Division, 1780 South Second Street, St. Louis 4, Missouri.

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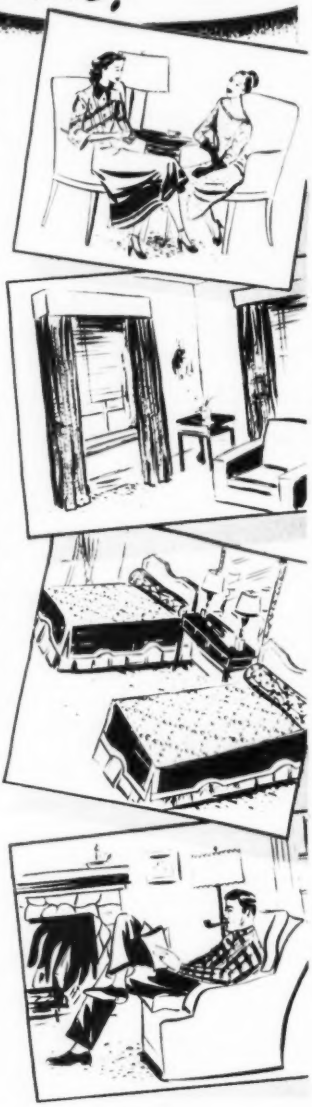
Why ONYXSAN* Softening HAS NO EQUAL!



PERMANENT... On cotton, acetate, rayon, bemberg, an Onyxsan finish is *permanent*. On other fibers the finish will show outstanding resistance to washing.

CATIONIC... All Onyxsan finishes are cationic. They became an integral part of the fiber, in contrast to other softeners having a mere surface effect.

WIDE RANGE... You can select your Onyxsan or combination of Onyxsans to give any type of hand you want, from the soft fluffiness of new fallen snow, to a hard, waxy feel. Where nap is important, an Onyxsan will leave a fine, soft nap, even on rough, nubby goods.

UNIFORM AND STABLE... Onyxsans are specific chemical compounds capable of being held to uniform characteristics. They are stable, and develop no odors, rancidity, mark-off or stiffness in treated goods. They are compatible with hard water, electrolytes and organic acids.

EASY TO USE... There are no operational changes when you adopt any of the Onyxsans. They are easily applied in the jig, quetsch, padder or dye beck.

ECONOMICAL... Only *small* quantities of any Onyxsan are required for treating practically any textile, or for any effects.

ONYX TECHNICAL BULLETIN TX-1

gives the detailed story on every one of the Onyxsans—their characteristics, uses and advantages. Write for a copy, or for as many copies as you think you can use to advantage.

*Trade Mark Reg. U. S. Pat. Off.

ONYX OIL & CHEMICAL COMPANY
JERSEY CITY 2, N. J.
CHICAGO • BOSTON • CHARLOTTE • ATLANTA
In Canada: Onyx Oil & Chemical Co., Ltd., Montreal, Toronto, St. Johns, Que.
For Export: Onyx International, Jersey City 2, N. J.

onyx CHEMICALS FOR DYEING AND FINISHING

phthalein give fluorescent effects. Ultraviolet light can also be used for confirmation tests. For instance, the bluish-red fluorescence of Acid Magenta A.S. enables it to be distinguished from Coomassic 2 Violet 2RS; the latter gives an intense scarlet fluorescence Tatrazine N.S. and Quinoline Yellow A.S. are the only two yellow dyes which fluoresce on wool. Azoic combinations between Brenthol A.S. and Scarlet G,GG, and RC bases give a reddish color; whereas the majority of developed azoics do not give any color.

It is also possible to distinguish azoics developed with Brenthol BT from those developed with Brenthol DA and FC. In such cases, the dyes are dissolved from the fabric using glacial acetic acid and reduced by boiling hydrosulphite. A filter paper is then dipped in the reduced dye and washed with 25% sodium hydroxide. Brenthol FC gives a yellow fluorescence, Brenthol BT gives a blue, and Brenthol DA a greenish yellow.

Differentiation between the various finishes is to some extent possible. Urea-formaldehyde resins fluoresce, but phenol-formaldehyde resins do not. Casein has a strong bluish-white fluorescence. Protein finishes and protein substances generally give a red solution becoming a green solution when shaken up with 10% caustic soda and a drop of 1% diacetyl.

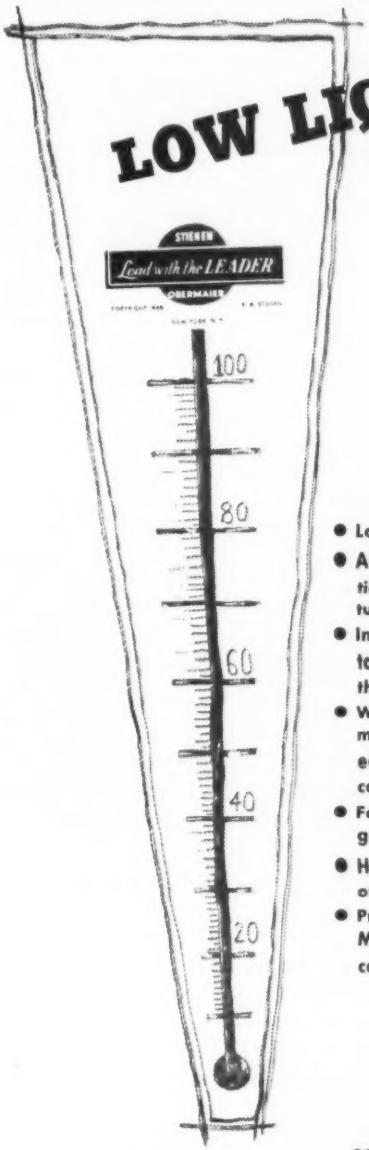
Phthalic-anhydride resins can be detected by first extracting with a solvent. The solution is evaporated, and the residue treated with a few drops of concentrated sulphuric acid and a few crystals of resorcinal. On diluting with dilute caustic soda, an intense fluorescence is obtained.

The presence of some metals used in dyeing and finishing can be readily detected by a fluorescent technique. The presence of zinc is indicated by the following test: the fabric is extracted with boiling water, and the extract made alkaline and then acid with a few drops of acetic acid. On adding a few drops of ortho-hydroxy quinoline, a brilliant yellowish-green fluorescence is obtained if zinc is present. A golden-yellow fluorescence is given if magnesium is present. If a solution of urobilin instead of ortho-hydroxy quinoline is used, zinc gives a brilliant-green fluorescence.

Aluminum salts can be detected by ashing the fabric, taking up the ash in dilute hydrochloric acid, neutralizing with caustic soda, and adding a few drops of Solochrome Violet R.S. The liquid is then boiled, cooled, and diluted with alcohol. A brilliant orange fluorescence indicates aluminum.

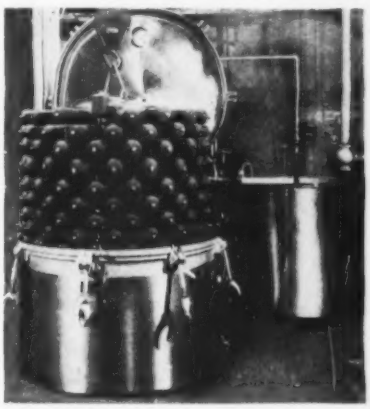
Borates or boric acid can be detected by acidifying a portion of a boiling

LOW LIQUOR RATIO HIGH FLOW



Plain talk. Mill management must produce for less money and in less time . . . in order to meet today's rising costs. Standard Fabricators' MODEL KRAG Cotton Package Dyeing machine fits into this picture perfectly . . . because The Model Krag has been accepted as one of the finest cotton package dyeing machines ever developed. Yes, here's a machine that will cut costs, save time, step up efficiency and eliminate waste. No question about it . . . it will help deliver your profits.

- Low liquor ratio.
- Adaptable for large production of yarn wound on ⅝" tubes.
- Inner heating cylinder maintains even temperature inside the dye kier.
- Worsted yarns for weaving may be dyed excellently and economically with all types of colors.
- Fabricated entirely of heavy gauge stainless steel.
- Horizontal spindles for ease of loading and unloading.
- Produced under the Society of Mechanical Engineers Certificate of Authorization.



MODEL KRAG
cotton package dyeing machine

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CENTRIFUGAL AND PRESSURE EXTRACTORS
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Standard Fabricators
INCORPORATED
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 For more information, write direct or use Reader Service post card.

Here's a Tip...

for selecting the *RIGHT VALVE* for the *RIGHT PLACE*

If you just want an extra good valve for general service, then choose the "Renewo" with Regular Type Nickel Alloy Seat and Disc. It's tops in its class.

Or, perhaps you have a throttling condition such as drain, drip, water column blow-down and like service where regular seats and discs tend to cut out . . . use the "P" (Plug Type) "Renewo" with 330 Brinell "NS 5" Alloy Seat and Disc. Here you have high resistance to wear and corrosion.

And for severe throttling and erosive service, particularly where abrasive conditions are present . . . the "PS" (Plug Type) "Renewo" with 500 Brinell Stainless Steel Seat and Disc will solve the problem.

"Renewo" Globe Valve Regular Type, "P" Type or "PS" Type

LUNKENHEIMER "RENEWO" VALVE Threesome

1. REGULAR TYPE *"Renewo"* Nickel Alloy Seat and Disc for general service.

2. "P" (PLUGTYPE) *"Renewo"* "NS5" Nickel Alloy 330 Brinell Seat and Disc for throttling, drain, drip, water column blow-down and like service.

3. "PS" (PLUG TYPE) *"Renewo"* Stainless Steel 500 Brinell Seat and Disc for close throttling and other severe erosive service.

and look at these money saving extra features

1. Each type of seat and disc is interchangeable one with another, making it possible to convert a regular type valve into a plug type without taking the valve out of the line.

2. Available in 200 lb. S.P. as well as 300 lb. S.P. making it unnecessary to purchase a 300 lb. valve for 200 lb. service.

The "Renewo" Threesome is fully described in Circular No. 377. A copy is yours for the asking . . . from your Lunkenheimer Distributor or direct from us.

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water extract of the fabric with acetic acid. A few drops of cochineal buffered between pH 6 and 7 is added, and brilliant yellowish-orange color is obtained if boric acid is present.

Acknowledgments are made to the many workers on ultraviolet-light testing whose work and results have been used in writing this article.

Three-Step Plan

(*Continued from page 111*)

stress that cost-cutting is the obvious answer to both shrinking revenue, smaller markets, and a continuing high expense level.

STRIVE FOR CONCRETENESS. Use charts to show the result of sales campaigns, sales-volume curves, break-even points, and so on. The closing note of the talk might be that lowering costs is the only solution to the problem. Cost-cutting is the business at the conference; it is only by a united effort that the mill can be successful.

Be sure to allow time for questions. Questions have the advantage of removing any doubts that may remain about the immediacy of the problem. At the same time, it gives the speaker the opportunity to drive home, by repetition, the main points of his talk.

There is another important result you want to achieve; keep this in mind when you decide on how large to make these meetings. You want your people to open up, you want as much "off-the-chest" talk to emerge as possible. If your people do not drop their wraps and really kick the question around in a full-dress meeting, it is wise to keep the size of each group down to the point where its informality will invite such frankness. Failure to release gripes in this area is one of the major reasons for subsequent failure.

A bad state of mind lies behind grudging cooperation. The production-department man feels that it is the office that ought to pitch into the problem. The mill has always been cost-minded, and costs are right down to rock bottom now. It is the office end of the operation that is the weak spot in the setup.

Once these attitudes are expressed, they can be dealt with on a logical basis. Eliminating such non-productive thinking is a necessary prerequisite, it clears the decks for the action the problem requires.

STEP 2. The procedure now is to create specific goals. At this point the staff is given a peg on which to hang its direct cost-cutting efforts. The first step, if successful, makes clear to

confidence

confidence

confidence

Accuracy of performance gains confidence. In business, confidence of fair dealing is our mutual opportunity for profit.

Spinning of yarns takes place in our *own* mills in Boger City, N. C. Mercerizing, Dyeing and Bleaching takes place in our *own* mills in Philadelphia. Let our yarns help you produce a *product of merit!*

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COMBED PEELER YARNS
GASSED OR UNGASSED
NATURAL DYED OR BLEACHED
Also
60/2 AND 80/2
SPUN NYLON
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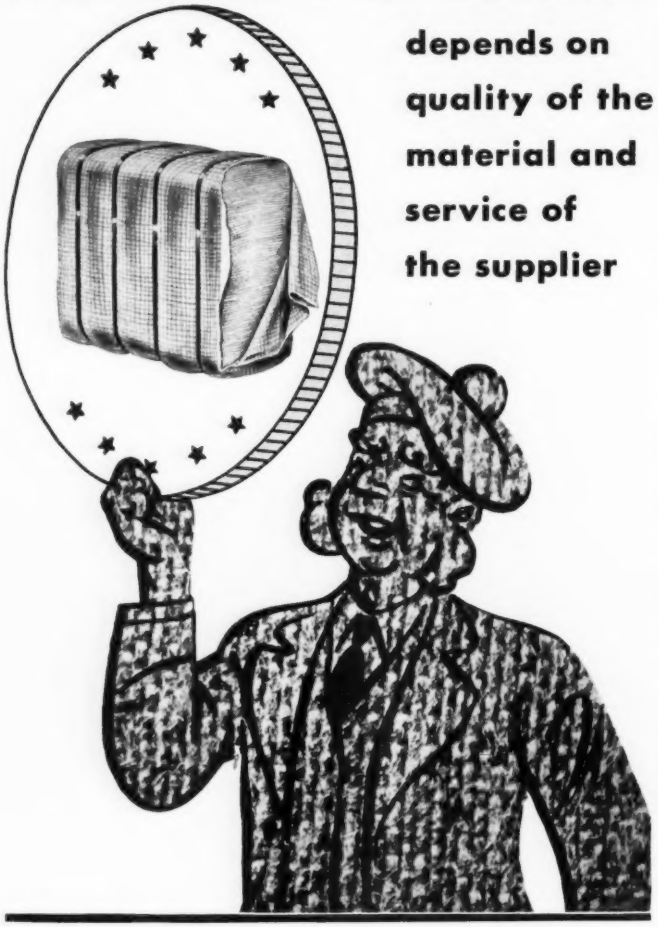
A GOOD BUY IN BURLAP



depends on quality of the material and service of the supplier

You can always depend on the quality of Bemis Burlap . . . whether it's Angus which only Bemis imports or one of the standard grades. Producers and users alike accept Bemis' grading of Indian burlap as the standard for the industry.

Bemis has the capacity for any size order. The facilities of 16 plants and 15 additional sales offices assure a dependable source of supply and prompt service.

Whether you need a bale or a carload (or more) . . . check with Bemis for good buys in burlap.

BEMIS TITE-FIT BURLAP TUBING
saves time and money in packaging odd-shaped and bulky products. Write for details.

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supervisors the need for action. In many cases, though, all that will have happened up to this point is the clarification or stressing of the problem. The necessity now is to bridge the gap between willingness and action. It's a large gap. Seldom will anyone argue against the need to cut costs. But the question that prevents action in the best-intentioned of individuals is, "Where do I begin?" The problem seems so complex, so vast, that no logical starting point seems to offer itself. This second part of the plan provides the answer to this question.

Whether your first step consisted of full-scale management meetings, or sub-groups, the management staff should at this point be subdivided into their natural divisional groupings. Each of these meetings should be presided over by the line executives in charge. Generally, these are middle-management-level people, the immediate superiors of your front-line supervisory personnel.

The job of the middle-management executive is to put across the operational basis of the cost-cutting plan.

He proceeds by making the point that many company expenses are unavoidable. It is necessary to have a certain amount of payroll expense, material expense, overhead. But this statement is followed up by these two points: (1) Costs inevitably include a certain amount of excess, or unnecessary expense, and (2) it is possible to get better results from present material and equipment.

The elimination of waste, both in intake and output, is the best way to approach cost-cutting. Once these points have been made, it is logical to introduce the basic goal in cost-cutting as the spotting of cost leaks.

Two courses are now open. It may be best for the executive to provide the breakdown under which cost leaks occur. But in most cases, you make the point more clearly by asking the conferees to supply examples of cost leaks that they have met in their experiences, then to show that they can be distributed under the following headings:

Waste of effort
Waste of material
Waste of talent
Waste of time
Waste of money

To clarify each type, be sure to provide a specific example of each, in this manner:

Waste of effort: unnecessary handling of material for temporary in-process storage; placing packages on a table, then transferring to a truck.

Waste of material: spoiling an entire cut of cloth because a single dirty bobbin of yarn is run in.

Waste of talent: using a highly

READ HOW DAMP-TEX ENAMELS*

☐ SAVE YOU MONEY	☐ MAKE YOU MONEY
☐ No shut-downs to dry out wet surfaces	☐ Increased visibility increases productivity
☐ Damp-Tex No. 2 dries in 30 minutes	☐ Higher morale increases productivity
☐ Rot, Rust, Fungus are halted—pores are sealed	☐ Lowered maintenance reduces production costs
☐ Cleaning & sanitizing Damp-Tex' porcelain-like film takes less time	☐ Greater sanitation reduces spoilage
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* *The Damp-Tex System*

WRITE for No Risk Trial Offer and specifications on what each Damp-Tex product will do. Warehouse stock near you.

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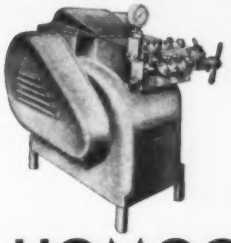
REDUCE SHEDDING ON SLASHERS AND LOOMS



You Can Do It With A GAULIN HOMOGENIZER

"Standard of the World For Nearly 50 Years"

SHEDDING on slashers and looms can be reduced to a minimum when a Gaulin Homogenizer is used to prepare starch sizings.

Textile mills with Gaulin installations report they obtain a smoother and more uniform size, the viscosity of which can be accurately controlled. This results in much less shedding. The outside fibres of the yarn are laid smoothly, and there is no tendency for adjacent ends to stick together.

Numerous other advantages are available to textile mills which install Gaulin Homogenizers. No longer is it necessary to cook starch sizing for long periods. The mixture is simply heated to the swelling point of the starch, then it is immediately homogenized. During the process, the mixture is forced under high pressure through a tiny opening. The tremendous velocity which it attains, combined with a shearing action and impact, breaks up the starch globules instantaneously.

ACTUAL EXPERIENCE IN MILLS HAS PROVEN THAT A GAULIN HOMOGENIZER OFFERS THESE BENEFITS:

- Elimination of cooking time
- Increased loom efficiency
- Substantial reduction of shedding in the slashers and looms
- Lower temperatures in the size box and slasher cylinders
- Sizable increase in slasher speeds
- Increased moisture content of the yarn
- Controlled sizing of yarn
- Accurate control of viscosity

Write for Bulletin T149 describing the Homogenizing process in the Textile Industry

(Patent Applied For)

[redacted]

BARBER COLMAN

SLASHER ROOM CONTROLS

Reduce Costs! Increase Production!

FOR EXAMPLE:*

"50% INCREASE IN SLASHER PRODUCTION"

Plus

"LOWER COST for STEAM per lb. of Warp SLASHED"

"SLASHER SPEED INCREASED BY 125%"

"31% INCREASE IN SLASHER PRODUCTION"

"MCC INCREASES SLASHER SPEED 300%"

"INCREASED WEAVE ROOM EFFICIENCY"

When considering *self-liquidating* improvements in a textile mill, no mill executive should overlook the slasher room. Modern automatic control equipment installed on existing machines costs relatively little and can pay for itself in a short time. Barber-Colman Complete Controls for the Slasher Room can effect a considerable increase in slasher production and a noticeable improvement in weave room efficiency through improved warps, as indicated by the results summarized above. Consult your Barber-Colman representative concerning possible improvements and savings in *your* mill.

* *Reported from various mills*

Electronic
MOISTURE CONTENT CONTROLLER
An *all-electronic* instrument that controls slasher speed continuously to compensate for all variables and to produce warps of uniform and optimum moisture content.

BARBER-COLMAN COMPANY
ROCKFORD • ILLINOIS

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CALCO dyelines

No. 11 of a series

PUBLISHED BY AMERICAN Cyanamid COMPANY CALCO CHEMICAL DIVISION
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A SUCCESS STORY: The Calco Copper Browns

Right from their first introduction, the Calco Copper Browns exceeded expectations by their superb performance. Available in three forms, Calcosol* Copper Brown Paste, Calcosol Copper Brown Printing Paste and Calcoloid* Copper Brown Double Powder offer the following advantages: (1) Very desirable *clear red-brown shade;* (2) Ability to act as a fast red shading element in vat color combinations; (3) Excellent fastness—especially fastness to *light* even in very light shades—which is unsurpassed by any other vat brown of similar shade. In addition, Calcosol Copper Brown Printing Paste is readily adaptable to printing very fast dusty roses and tans with pleasing tones.

Calcoloid Copper Brown Powder or Calcosol Copper Brown Paste are recommended for package yarn, raw stock, skein yarn and piece goods dyeing, cotton or viscose. For printing cotton and rayon, Calcosol Copper Brown Printing Paste is recommended.

*Trade-mark

Calconyl Blue Now Available in Two Forms

Stabilized azoic blues for cotton printing, in either the powder or solution form, are now available. Calconyl* Blue G Powder and Calconyl Blue G Single Solution produce clear, uniform blues with good fastness to washing, hot pressing, perspiration, dry cleaning and plissé. They offer fairly good fastness to light.

The Calconyl Blues augment the line of Calconyl Reds, Scarlets and Yellows now offered as powders or solutions. Try them in your next cotton printing pattern.

*Trade-mark

How to Lower Costs by Minimum Caustic and Hydro Usage

The use of minimum concentrations of caustic and hydro offers opportunity for economies in package dyeing. Fresh, undeteriorated hydro, approximately 92% $Na_2S_2O_4$, gives full money value in the dyebath, since the absence of the products of acidic decomposition permits savings in the caustic soda which would otherwise be expended for neutralization. And the absence of electrolytes, formed by reaction of caustic soda and the products of acidic decomposition, promotes level dyeing, as also does a low concentration of caustic and hydro in the dyebath.

Where equipment is well maintained, ¼ ounce of caustic and hydro per gallon is usually sufficient for light shades; ¼ to ½ ounce for medium, and frequently for dark shades. These quantities are usually specified for the pigment method operated at 180° F. —200° F.

Star Performers Among The Calco Naphthosols

There are about fifty known naphthols and over thirty known fast color bases suitable for textile mill use. Now, get your pencil out and figure how many combinations you can get, using a single naphthol with a single diazotized fast color base. Then add to this the additional combinations which can be made by mixing two or more naphthols, or two or more bases.

The result: thousands of shades with varying properties. Yet, comparatively few combinations are used very extensively because only these produce the desired shades and fastness, most economically and with greatest dependability. The following list contains some of the major products which are consistently popular in the trade.

Calco Naphthosol ASF Conc.; ASG; ASP; SWF; BO; BS; OL; D.

In addition, there are the Calco Naphthosol Fast Color Bases: Red KB Base; Red GL Base; Red GG Base; Red 3GL Base; Red B Base; Scarlet RC Base; Scarlet G Base; Bordeaux GP Base; Blue B Base.

Calco Naphthosols and Calco Naphthosol Fast Color Bases are highly recommended for dyeing or printing of cotton. Full bright shades of excellent fastness are most economically produced with these dyes.

Calco's daily electricity consumption equals that of a city of 45,000 homes.

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Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

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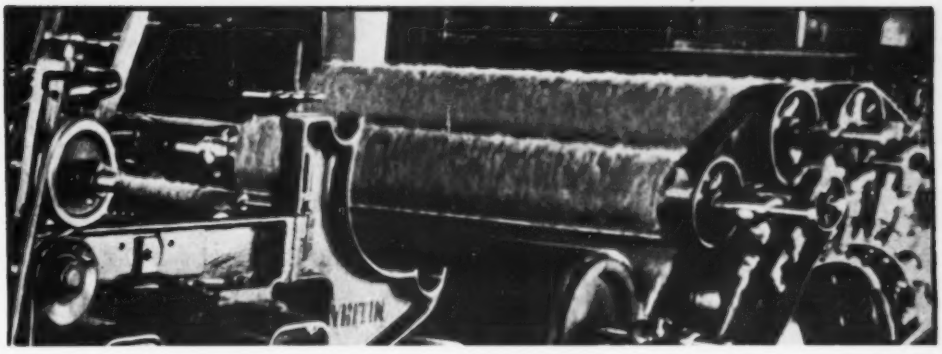
Comb boxes get hot and wear badly?



change to

NON-FLUID OIL

TRADE MARK REGISTERED

Ordinary lubricants can't prevent wear . . . they won't stay in comb boxes. Cards lose adjustment due to play in the worn bearings and uneven sliver gives you trouble right through the mill. NON-FLUID OIL prevents wear and protects card adjustment because it stays in bearings.

Write for bulletin T5TW and free, testing sample of NON-FLUID OIL.

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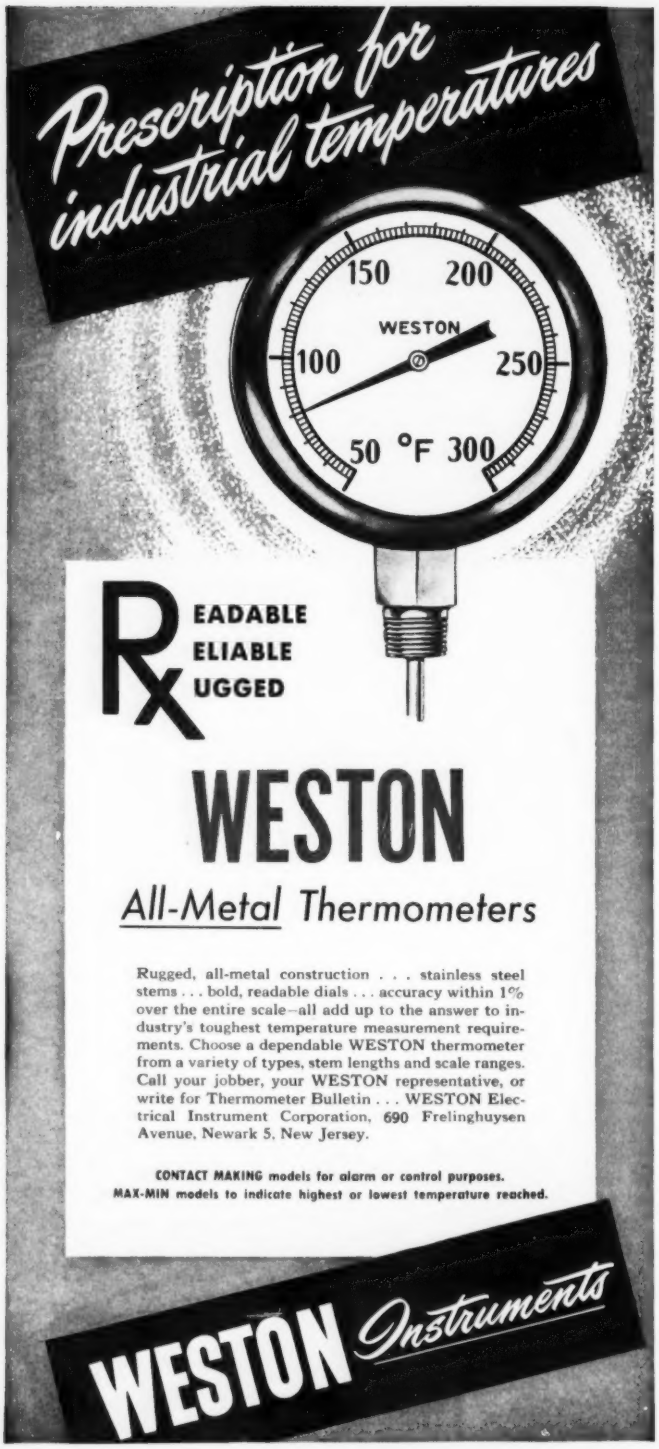
NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called fluid grease imitations of NON-FLUID OIL often prove dangerous and costly to use.


Prescription for industrial temperatures
150
200
WESTON
100
250
50 °F 300
Rx
EADABLE
ELIABLE
UGGED
WESTON
All-Metal Thermometers
Rugged, all-metal construction . . . stainless steel stems . . . bold, readable dials . . . accuracy within 1% over the entire scale—all add up to the answer to industry's toughest temperature measurement requirements. Choose a dependable WESTON thermometer from a variety of types, stem lengths and scale ranges. Call your jobber, your WESTON representative, or write for Thermometer Bulletin . . . WESTON Electrical Instrument Corporation, 690 Frelinghuysen Avenue, Newark 5, New Jersey.
CONTACT MAKING models for alarm or control purposes.
MAX-MIN models to indicate highest or lowest temperature reached.
WESTON Instruments

skilled operator in a low-skill job.

Waste of time: equipment or men needlessly idle on the job.

Waste of money: purchase of improper supplies or equipment, larger quantities than are needed.

At this point, the argument may arise that the same thing is a waste of talent and time; of effort and material. The hotter this argument grows, the better, since it drives the point home. You then make the point that the wastes are actually inter-related, that in the final analysis they all amount to wastes of money. And preventing that waste is what you are after.

Once your front-line people understand this approach to cost-cutting, they can get down to brass tacks in their own departments.

STEP 3. To get the full payoff on cost-cutting, it must get down to the rank-and-file employee. It is important, however, for this assistance to take the form of participation in the effort, rather than the passive following of orders from supervisors.

The method of winning this cooperation is as follows: Make it easy for employees to think the problem through. Generally, they are thoroughly familiar with their own jobs, but are unused to thinking about them in abstract terms. To channelize their thinking, specific questions have been found to yield the most satisfactory results.

These specific questions should be worked out through a pooling of supervisory experience. In most cases, the same conference grouping used to explain the elimination-of-waste idea to your front-line people can be repeated for the preparation of the questions.

Of course, the questions should be framed around the five basic sources of waste. This is the type of question that throws the spotlight squarely on cost leaks:

Conserving effort:

(a) Are we doing any work that may have been required at one time, but is no longer necessary?

(b) Are we duplicating work in this department that is being done elsewhere in the company?

(c) Would different tools or equipment make a given job or operation easier, more efficient?

The same kind of pin-pointed examination can be made of each of the other four types of waste.

It is necessary to give the rank-and-file employees as frank and clear a description of the reasons for the cost-cutting campaign as was done for management personnel. The basic facts covered in the management meetings should be communicated to them

WIPE OUT STATIC

from Your Production Picture with NOPCO* 1656-R the antistatic oil that assures better WORSTED production

Today, when speeded-up processes in worsted yarn manufacture tend to promote static, you'll find Nopco 1656-R an ideal trouble killer.

Fibers treated with this specifically formulated oil remain static-free throughout carding, gilling, combing and drawing operations.

You'll avoid "wild" and broken ends, produce even-running, quality yarn with this new, antistatic lubricant.

Nopco 1656-R also *eliminates* oxidation, and *reduces* soap costs 75%. In fact, this remarkable new oil enables the worsted manufacturer to obtain exceptionally good results—comparable to those achieved by users of famous Nopco FUA oil for processing wool.

Yes, Nopco 1656-R means HIGH QUALITY WORSTED YARNS PRODUCED ECONOMICALLY . . . and in these competitive days what is of more importance to you?

Ask your Nopco representative for full details, or write today for complete information.

NOPCO TRADEMARK EVOLVED THRU RESEARCH

NOPCO CHEMICAL COMPANY

Formerly National Oil Products Company

HARRISON, NEW JERSEY

Branches: Boston • Chicago • Cedartown, Ga. Richmond, Calif.

* Reg. U. S. Pat. Off.

NOVEMBER • 1949

CARD CLOTHING NEWS and views

WRITTEN MONTHLY BY E. A. SNAPE, JR., PRESIDENT Benjamin Booth Company PHILA. Pa.

HOW STRIP-O-MATIC* FITS

Into Today's Thinking: Better Production, Lower Costs

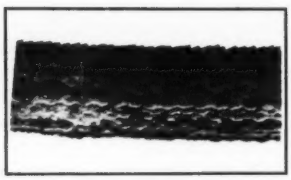
"Now, more than ever before", is an advertising phrase that has seemed to me, for a long time, to be overworked.

And yet, now that I sit down to tell you how **STRIP-O-MATIC** Card Clothing fits so aptly into today's thinking, I find the phrase really descriptive. "Now, more than ever before".

For now, when all industry is predominantly thinking in terms of how to cut production costs and at the same time make a better product, **STRIP-O-MATIC** is a product to be reckoned with. Now, more than ever before.

Say, for instance, you are having the "conventional" problems encountered with "conventional" card clothing; excessive stripping. . . . lengthy "down time" periods when production is at a standstill. . . . *cumbersome* carding. Aren't they the kind of "expenses" you want to eliminate; expenses that are *unnecessary?* We all know they are! And they are the kind of expenses you *can* eliminate by using the new, *revolutionary* **STRIP-O-MATIC!**

You may recall that when we first announced this Card Clothing, and during the months that followed when it was constantly being tested by users, we made no extravagant claims. No statements which we could not prove. We contended merely that we believed we had an exceptional product, based on existing tests, and invited you to find out for yourself whether **STRIP-O-MATIC** was not the best card clothing, by far, for you.



Perhaps we were too conservative. But now we can't resist the bolder approach, and here's why. **STRIP-O-MATIC** has arrived—its use is essential now, more than ever before.

In the few months since the announcement of **STRIP-O-MATIC**, I am happy to say that nearly 100 individual mills have placed orders for it, with repeat orders received from more than 20 mills.

That, to us, spells success!

To give you a complete picture of how **STRIP-O-MATIC** is designed, how it saves you real money, and how it makes your product better, we have prepared an 8-page color booklet, yours for the asking. It tells the **STRIP-O-MATIC** story so well we hope you will write today for your free copy.

Thanks.

E. A. Snape Jr.

President,
Benjamin Booth Company
Allegheny & Janney Sts.
Philadelphia, Pa.

* Pat. Applied For.

by their supervisors. How much detail goes into this explanation depends, of course, on the individuals concerned.

This is the approach one supervisor used: He called an impromptu meeting of his workgroup.

"Men," he told them, "we've just had a session up at the front office. The present business situation spells trouble for the mill if we don't cut costs." He then followed this by his own version of the company position as it had been explained to him by the business executive.

He continued, "There's no question of immediate layoffs, or anything like that. But it's a sure thing we'll all be better off if the company can cut down on needless expenses.

"Now I'm pretty sure that we know our jobs well enough to be able to put our fingers on the weak spots. I'd like your help in spotting the cost leaks right here is our own department."

He then got out the lists of questions which has been developed in the management conference, and went into each one with his people.

It has been the general rule that once the cost leaks are revealed, plugging them is almost automatic.

Cotton-Mill Costs

(*Continued from* page 115)

Card stripper
Card cleaner and sweeper
Card grinder.

Other processes throughout the mill are broken down into tasks in a similar manner and assigned.

Advantages pointed out for this system include:

1. A shorter training period for a new employee is required.
2. The task is more easily managed.
3. There is no conflict between two or more tasks.
4. A worker who does only one thing does it more efficiently than he could do several tasks.
5. Higher-paying jobs can be broken down, and the tasks that require less skill can be assigned to a lower-paid worker.

Job specialization is taken a step further in another mill. Maintenance and lubrication from opening through twisting was assigned to a central maintenance department. The move has netted a 25% saving in lubricants and a 50% saving in repair parts. In addition, major breakdowns have been all but eliminated. Maintenance and oiling labor has remained substantially the same.

MACHINES AND EQUIPMENT. A new opening room at one mill removes

Another Profitable Tip To Mill Men

HYATT

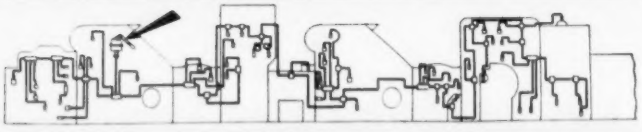
ROLLER BEARINGS

The slight extra cost for these loom proven bearings is soon paid for by the economies they effect in operation and the higher quality cloth which results. Ask us to furnish you with reasons why Hyatts are worth what you pay for them many times over. Write to

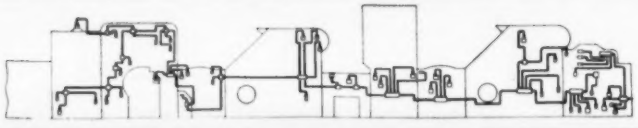
HYATT BEARINGS DIVISION • GENERAL MOTORS CORPORATION • Harrison, New Jersey

LEADING MANUFACTURERS WHO BUILD IN THE BIJUR SYSTEM

this is how Bijur



cuts maintenance



time on the picker

By creating one lubrication source (arrow) for 100 points of lubrication, the Bijur system makes it possible to oil all bearings at once *while the picker is operating*. Operating the lubricator force-feeds a measured amount of filtered oil through a single-line distribution system, branched to reach all 100 points. A positive method of Meter-Unit control provides each bearing with the correct oil film *automatically*.

Central Oiling Means Savings

Compare the time saved by Bijur-lubricating 100 bearings with the time wasted by hand-oiling each bearing individually. Contrast the reduced wear of Bijur-oiled bearings against the break-downs resulting from "starved" or "forgotten" bearings. And when you consider that down-time for oiling is converted into more time for production, you can see how the Bijur system pays for itself in a short time.

Built-In Lubrication

When you specify Bijur, you are assured of built-in bearing protection. This central lubricating system has been designed into the products of the leading manufacturers of textile machinery, and has proved its value among top textile mills (names on request). For further details, write for Bulletin 6A, "Metered Lubrication of Textile Machinery."

394

BIJUR
LUBRICATING CORPORATION
LONG ISLAND CITY 1, NEW YORK

eight bales of motes and dust a week from the same quality and amount of cotton from which the old opening lines removed three bales a week. More uniform rovings and yarns and fewer ends down have been obtained.

Pickers equipped with blending-reserve sections have improved lap-weight uniformity and reduced the number of set-back laps. The results have been less lap waste to be reworked and still further improvement in yarn uniformity.

New looms and an air-changing system in a weave room at one mill raised weaving efficiency from 87.6% to 93.12%. Mill-wide air conditioning in another mill raised production from 3 to 5% and decreased spinning ends down about the same amount.

Two pieces of auxiliary equipment for spinners reported by mills to be cost cutters are pneumatic roll pickers and full-doff knock-offs.

One mill that uses pneumatic roll pickers was able to reduce its spinning-frame cleaning crew 15%. On roll picking alone, the time saved was approximately 40%.

Full-doff knock-offs in one mill brought these advantages:

1. No doffs run over.
2. No short doffs.
3. No time lost by the spinner waiting to stop the frame.
4. A small saving of the doffer's time by the knock-off kinking the ends and bearing down the rail.
5. No "home runs" by the doffer.

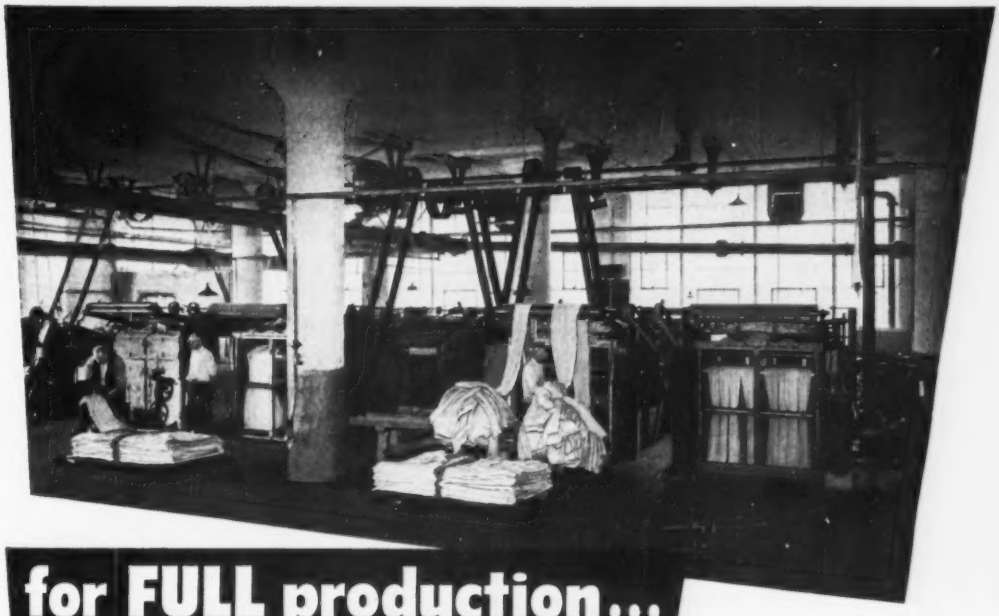
Woolen-Mill Costs

(*Continued from page 125*)

the spinning department can take care of only 16 hr. of card production. However, plans have been made to install two frames per card. In other words, the future carding department of 16 tape-condenser cards will be synchronized with 32 spinning frames in order to utilize, if necessary, a three-shift operation in the card room. In case of higher yarn production, the weave room could also operate partly on a three-shift basis. The finishing department could also be synchronized without investing any more money in additional equipment.

An important change took place in the weave room in Mill B. Formerly, four looms were operated by one weaver; after the reorganization, six looms were run by one weaver. Four girls on each shift keep the magazines filled.

In Mill C, the increased production required two more front tenders on each shift, or an increase from 10 to 12 men on each shift. Despite the increase in help, the production in-



for FULL production...

Botany chooses Hunter Fulling Mills

The illustration on this page shows the high-production Fulling Mills installed at the Botany Worsted Mills, Passaic, New Jersey. Hunter Fulling Mills are equipped with every possible new improvement, such as sectional rubber rolls, stainless steel linings, throats, stop motion and whip roll. Hunter Mills may also be fabricated entirely from stainless steel. These units can be equipped with pneumatic pressure for both top roll tension and crimping box tongues. They may, of course, be equipped with or without motor drives.

Write today for catalog.

BUILT BY HUNTER — JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS, MASS. — IT'S DEPENDABLE

D. L. Raedel, 1936 West Lake Street, Chicago, Ill.
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J. Everett Burdick, Grayson Lane, Newton Lower Falls, Mass.
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JAMES HUNTER MACHINE CO., NORTH ADAMS, MASS. FOUNDED 1847.

The Spindle with a Future!

YOUR PRESENT SPINDLES PRECISION GROUND AND EQUIPPED WITH THE REGNERY ALUMINUM SPINDLE ADAPTER HAVE "BUILT-IN" BALANCE FOR LONG LIFE AND IMPROVED SPINNING

The tried and proven conventional type of standard base, bolster and a spindle with a record for low cost operation and maintenance, with the REGNERY adapter has a larger package and improved spinning at a low conversion cost.

THESE ARE THE ESTABLISHED FACTS!
—the results of over 600,000 warp spindles converted with the REGNERY adapter now in operation:

1. More yarn per bobbin.
2. A smoother spinning unit.
3. Less ends down with better quality work.
4. Less waste in spooling operations.
5. A more uniform traverse.
6. A trouble-free, permanently "locked-in" spindle and adapter.
7. A savings in doffing and spooling costs.
8. Lower bolster replacement costs.

COMPARE THE RESULTS! *Lower Your Production Costs.* Modern top drive adapters for the tapered or parallel bobbins can be installed in your mill quickly and easily to your specifications. We can also offer you uniform spinning throughout your mill when part of your spinning is on paper tubes.

CONCENTRICITY IS OUR BUSINESS!
Send for descriptive folder

F. L. REGNERY Corp.

613 WEST 16TH STREET..... CHICAGO 16, ILLINOIS

increase in help, the production increased 50% while the increase in man hours was 20%. Altogether, the company reduced the unit cost per pound of yarn by more than one-third the previous cost. Through the increased production, the company was in a position to counteract a high wage scale in a favorable manner.

NEW ERA. A new era has arrived in woolen mills. But only those mills with not only the capital but also the courage to go all out in reorganizing and remodeling their entire production process will benefit. These mills must change to such an extent that the old-fashioned building layout will give way to a new, modern one. Those mills building their walls around the machines (providing they have the assistance of experts who not only consider the proper flow of production but the economic angle as well) will not only serve the buying public, but they will serve themselves by producing first-quality fabrics profitably at a competitive price. Even wage increases can be partly absorbed by modernization, a very important point for many mills working with a small margin.

The long-expected devaluation of the pound sterling will have the result that England, as a large woolen-goods manufacturer, will try to compete more than ever with the American domestic and export market. First-quality fabrics will be available at prices acceptable to the trade. To counteract the trade policy of England, mills must have the most modern production machines and methods in order to keep production costs as low as possible and to produce more per hour than English competitors. To produce more per man-hour is possible only by re-equipping plants with the latest machinery in order to show what American ingenuity can do even under unfavorable conditions.

Capital Outlay

(*Continued from* page 104)

INDUSTRY BREAKDOWN. A more detailed breakdown of mill expenditures and commitments for 1949 shows that cotton and rayon mills, taken as one category, substantially increased their heavy outlays for capital improvement in 1949 over 1948. The rise was 29% in the 12-month period. The two types of mill, very often difficult to identify separately as one or the other, were noted as commiting $344,000,000 to physical improvement. This figure compares with the $266,000,000 committed in 1948, and $237,000,000 in 1947.

Woolen and worsted mills, on the

TOWMOTOR Electric Pallet Truck

selected by WRIGLEY

for speed . . . maneuverability . . . ruggedness

When you're producing millions of sticks of chewing gum ***every day***—billions every year—you are faced with the gigantic task of unloading, storing and transporting a staggering amount of materials. This is the problem at the Wm. Wrigley Jr. Company's giant Chicago plant—the world's largest chewing gum factory.

To help maintain top efficiency in a competitive industry, Wrigley must be constantly alert to new developments in the materials handling field. That's why this leading manufacturer selected Towmotor Electric Pallet Trucks to augment its handling equipment.

One of the gruelling tasks is to transport and store 2400-lb. pallet loads on an inclined floor at the top of a warehouse building. The floor is rough board surface at an 8° angle. Towmotor is the only truck with enough power to handle full loads rapidly over this area!

In actual operation, Towmotor travels ***faster*** under ***heavier*** loads . . . is lighter in weight for its capacity . . . climbs grades more readily . . . makes sharper turns . . stands up under constant daily use.

Check these outstanding Towmotor features:

- **Dual Finger-tip Control—either hand.**
- **Positive Action Brake—vertical and horizontal positions.**
- **Automatic power cut-off when brake is applied.**
- **Rapid lifting of loads up to 4000 lbs.**
- **3 Point Suspension—for smooth travel, easy maneuverability.**

Write for the descriptive folder on Towmotor Electric Pallet Trucks. Learn how Towmotor **M**ass **H**andling methods can cut production costs and save money for you. Towmotor Corporation, Division 22, 1226 East 152nd St., Cleveland 10, Ohio. Representatives in all Principal Cities in U. S. and Canada.

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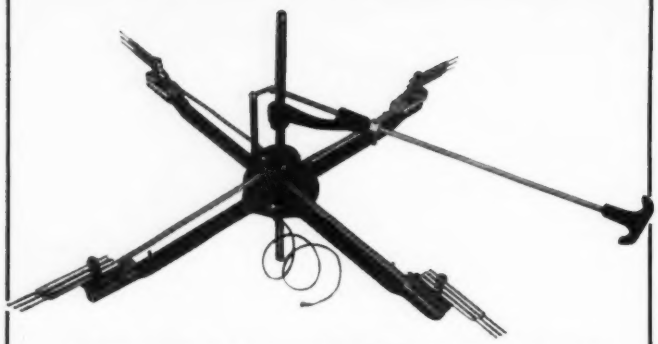
THE ONE-MAN-GANG

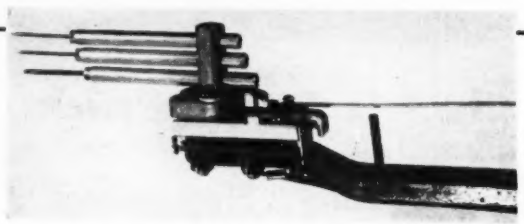
FORK LIFT TRUCKS and TRACTORS

RECEIVING • PROCESSING • STORAGE • DISTRIBUTION

CRAWFORD'S HOLE DETECTOR



SAVES SPOILAGE • PROTECTS MACHINES!
SPEEDS PRODUCTION!



THESE SENSITIVE FINGERS DETECT ANY HOLES... STOP THE MACHINE!

So "sensitive" to hole-detection is the Crawford Hole Detector that it provides many savings from the very moment you attach it to your circular knitting machine!

It is readily attached and electrically controlled. Once the fingers detect the slightest hole—Bingo!—your knitting machine stops and you save spoilage and needles, protect the machine. Higher and better production is a certainty!

These savings will mean bigger profit to you, and you will soon find this money saving Hole Detector indispensable to *good operation.*

Write for full details.

The CRAWFORD MFG. CO., INC.
NEW BRUNSWICK, N. J. **Tel.: 2-0603**

other hand, dropped their commitments from the $125,000,000 of last year to $61,400,000 in 1949. Knitting mills appeared likewise to have reduced their expansion and improvement programs from slightly over $50,000,000 to about $33,000,000. Wet-processing expenditures and commitment figures went down from almost $40,000,000 to a little over $15,000,000. Again, it should be stressed these industry-breakdown figures should be used merely for noting expansion or contraction trends, not as absolute figures.

LEADING SPENDERS. As in other years, producers of primary synthetic fibers increased their production facilities as new applications were discovered and demand for the fibers continued strong throughout most of the year. E. I. du Pont de Nemours & Co., Inc., was in the midst of enlarging its nylon-production facilities at Chattanooga, Tenn., and Seaford, Del., and setting up its Orlon-producing plant at Camden, S. C. American Bemberg Corp. was on record as having put $2,000,000 into physical expansion at Elizabethton, Tenn.

Due to the character of the over-all production of synthetic producers, only 20% of the primary synthetic-fibers production expenditures are considered as textile. Of the synthetic-fiber-plant dollar total noted in the columns of "News About Mills" in 1949, $1,529,000 (or 20% of the total committed) was, as in previous years, added to the total of textile-mill expenditures and commitments.

Large spenders among the mills included Greenwood Mills; Machias Mfg. Co.; Amoskeag-Lawrence Mills; Deering, Milliken & Co.; Acala Cotton Mills; Cone Mills; Kendall Mills; Maverick Mills; Pinecrest Cotton Mills; Fieldcrest Mills; Henrietta Mills; Lane Cotton Mills; Textiles Inc.; Abbeville Mills; Hartwell Mills; Limestone Mfg. Co.; Proximity Mfg. Co.; Springs Cotton Mills; M. Lowenstein & Sons; Redstone Textile Co.; Stillwater Worsted Mills; Collins & Aikman; Hayward Woolen Mills; Chadbourn Hosiery Mills; Skyland Hosiery Mill; Artcraft Hosiery Co.; and Rock Hill Printing & Finishing Co. All of these plants spent or allocated $1,000,000 or more for physical improvements. The number, 28, is exactly the same as was listed in 1947, and one less than was listed for 1948. Indications are therefore that not only have textile-plant-improvement expenditures and commitments in 1949 almost maintained their post-war high-level mark, set in 1948; but also that the ratio of big spenders to smaller ones remains about the same. Modernization is

For Greater Efficiency... Check These Special Features Of The NEW *Leverpak* ROVING CAN

Inner plastic rim protects sliver from abrasive action.

Clip boards are easy to insert and remove—due to inner shoulder.

Steel kicking band insures long life under hard usage.

All metal outer bottom protects can and contents from grime and grease.

Longer life, greater efficiency—these are improvements you will want to see before you place your next order for Roving Cans. And you'll find them in Continental's new LEVERPAKS.

Rigid sidewall construction of laminated kraft—no rivets—provides a smooth interior. The outer plastic coating not only resists ordinary wear-and-tear, but withstands excessive heat and humidity conditions. And note all the other construction features that add up to extra years of service.

LEVERPAKS may even reduce your labor costs. Their wider diameter (15 13/16 in.) provides greater capacity (3.8 cu. ft.). And greater capacity means smoother, more continuous machine operation.

Any way you look at it, Continental's LEVERPAK Roving Can is *Hard to Beat!*

- Bottom metal chime permits easy rolling, prevents abrasion.
- Specially treated interior safeguards against contamination.
- Top and bottom reinforcing bands are made of heavy gauge, electro-galvanized steel.

Covers and locking bands are available for inter-plant movement or temporary storage.

Outside diameter 15 13/16 in.
Standard outside height 36 inches.
Other heights available.

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SALES OFFICES:
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CASTERS & WHEELS
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For light, medium or heavy duty service Darnell Casters and Wheels are dependable — saving floors, equipment, money, time and temper.
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not limited solely to the larger corporations, any more than it has been in the past.

THE FUTURE. General economic and political conditions will continue to influence mill-improvement outlays as they have since the war. It is likely that these will continue close to an average for the last three years, even though the post-war drive for new plants and equipment to meet the demand of increased population and an improved standard of living has become less frenzied. Many mill executives, however, are convinced of the need of staying ahead of the pack and of insuring their mill positions while times are good, profits are available, and it is still possible to expand normally. The long future at the moment is, as usual, enigmatic, but business organizations can be optimistic on a short-term basis. And so modernization can be expected to continue at a rate next year comparable to that recorded for 1949.

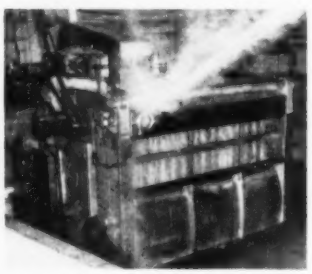
Cost-Cutting Briefs

(*Continued from page 109*)

consists of three reels and a hydraulic variable-speed drive unit. The unit is attached to conventional dye becks. No lifting of cloth to load the beck is required; the beck loads itself with no effort by the operator other than placing one end of the cloth rope over a reel. By a simple measuring technique, equal yardage can be placed in each strand, thus each strand has an equal length of time in the dye, and dyeing is even throughout the lot.

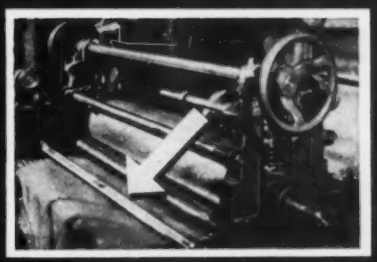
The beck also unloads itself into a truck, again eliminating manual lifting. Elimination of all lifting contributes to fabric cleanliness and reduces accidents.

Loading and unloading can be accomplished in 15 to 30 min. each. If work

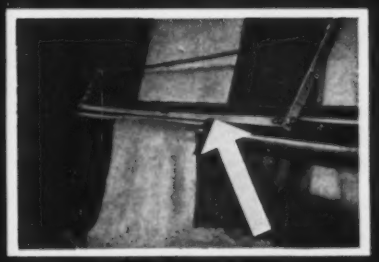


***A NEW ENGLAND COTTON MILL** installed one Rodney Hunt Tensitrol Model 6 rope washer in its continuous peroxide-bleach range to replace two tight-strand washers for final wash. The Tensitrol unit did four times better work in washing out caustic than the two tight-strand washers, and eliminated cloth breaks.*

Do you have static trouble...



HERE? On this Peralta machine at Broadalbin Knitting Company, Broadalbin, N. Y., installation of an Ionotron reduced spoilage 50%, boosted production 10%, cut operating time 10%, and increased wool card quality.



HERE? Installing this Ionotron in the Triangle Finishing Corporation's plant, Johnstown, N. Y., eliminated cloth swing stoppages caused by static electricity — made possible better cloth folding — reduced total stoppages throughout the plant by 20%.

HERE? On this industrial ironer at the Cameo Curtain Manufacturing Corporation, the Ionotron quickly proved an important factor in eliminating static troubles in the production of nylon marquisette curtains. It operates continuously without expense.

HERE? This "picture" might be a tape condenser of a wool card, or a drawing frame delivery unit, a finishing machine, hosiery boarding machine, or elastic thread processing equipment. Ionotrons have solved static problems on all.

To get rid of it, send coupon!

Without humidity, without power connection or operating expense, and without contact with the work — the Ionotron continuously drains away static charges . . . eliminates or greatly reduces bunching, lapping, and other troubles with fibres and fabrics. Find out how it works — send for free bulletin today!

IONOTRON Static ELIMINATOR

*Dept. V-1, U. S. Radium Corp., 535 Pearl Street, New York 7, N. Y.

Please send illustrated bulletin describing uses of the Ionotron Static Eliminator in textile operations.

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

CITY _____ ZONE ____ STATE _____

*Inquiries from Canada and British Commonwealth should be addressed to Eldorado Mining & Refining (1944), Ltd., Ottawa, Ontario, Canada.

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QUICK TRAVERSE WINDER

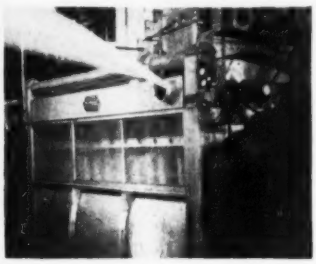
ZET T—40

Winding speed up to 880 yds/min
Winding machines of most up to date design
Weaving and finishing machines of various types
For particulars write to:

KOVO Ltd., Metal and Engineering Products and Raw Materials Trading Company, Praha II, Jungmannova 29, Czechoslovakia.

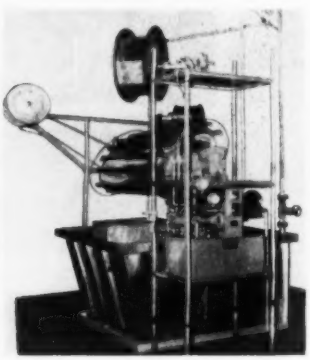
is planned properly, loading and unloading can be accomplished simultaneously.

The attachment can handle all types of fabric successfully, from heavy romaines and satins to fine failles and sheers.



A MID-SOUTHERN cotton-mill finishing plant saved annually $21,763 and got improved quality with an installation of a Rodney Hunt Tensitrol rope washer that was run 24 hrs. a day, 300 days a year, at an average speed of 25 yd. per min. The single installation replaced two tight-strand washers.

► A 12% saving in coal consumption was made by a New York knitting mill through a heat exchanger for supplying heat to dye tubs. The exchanger was engineered by Douglas M. McBean, Inc., Rochester, N. Y.



SIMULTANEOUS LOADING and unloading can be accomplished with the continuous-dyeing attachment shown here on a small 6-ft. box.

► An Eastern mill formerly used a wetting-out agent for a certain type of piece goods that was replaced by E. F. Houghton Surfax 1288. Final cost comparison showed that Surfax 1288 did the job for one-sixth the expense, with a quicker and more efficient wetting action.

► Two mills in the Paterson area used 1½% solution of American Cyanamid Co. Aerotex Softener H in finishing nylon netting to keep static electricity out of the goods. The application also eased the static

There's Plenty of SOCK

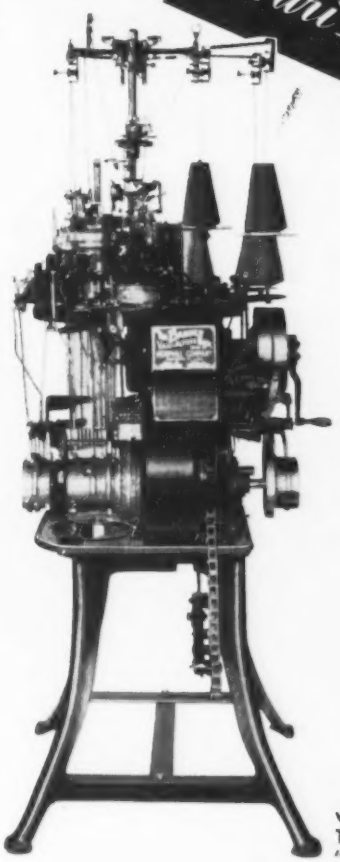
LOW PRICE!
Low price of this new machine is in direct contrast to its amazing versatility and high performance.

EASY PATTERN CHANGEOVER!
Pattern disks quickly and easily changed without any, or at minimum cost.

SIMPLE OPERATION!
One operator can easily and efficiently take care of a large battery.

4 GAUGES & 3 SIZES!
3¼" cyl. 18-24-36-48 ga.
3½" cyl. 18-24-36-48 ga.
3¾" cyl. 18-24-36-48 ga.

RIGID, STURDY CONSTRUCTION!
Low center of gravity for high speed operation.



HIGH PRODUCTION!
Double Feed and High Speed. Up to 7 dozens of fancy hose in 8 hours.

EXTENSIVE PATTERN VARIETY!
Tremendous range of patterns and colors in all gauges and diameters from any type yarn.

SIMPLE & EASY TO MAINTAIN!
All vital adjustments accessible to fixer at front of machine.

Low price! High performance! Amazing versatility and simplicity of operation! That's the profit story in the new Hemphill "Vari-Pattern" hosiery knitting machine. And Hemphill's Fabric Research Department will assist you in developing its full capacity.

Find out how the "Vari-Pattern" can point the way to new volume—new business—new profits! Find out from a Hemphill sales engineer. Address Dept.1 today.

Model HTF-49

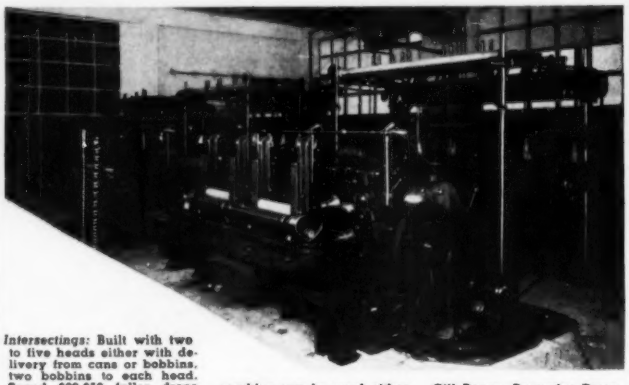
HEMPHILL BANNER MACHINES
Shaping Hosiery's Footprints All Over The World!

HEMPHILL COMPANY
MAIN OFFICE AND PLANT: PAWTUCKET, R. I., U. S. A.
Makers of Banner Hosiery Machines
Agents In Principal Cities Throughout The World

Offices: Empire State Bldg., New York 1, N. Y.— Security Bank Bldg., High Point, N. C. — Export Office: 25 Beaver St., New York 4, N. Y.

A NEW Machine for NEW Business—NEW Profits!

WORSTED PREPARING • SPINNING & TWISTING MACHINES



Intersectings: Built with two to five heads either with delivery from cans or bobbins, two bobbins to each head. Speed 600-650 faller drops per minute. Silver production about 28-33 yards per minute. Each head has a set of 39 fallers studded with wire pins of finest gage. Each machine is equipped with a yardage clock.—The machine can be used either in the first three drafting passages or after the combing and backwashing.

O.M.C.S.A. builds the following worsted machinery: Mixing Machines—Intersectings, Gill Boxes—Porcupine Drawing Frames — Spinning Frames—Twisters.

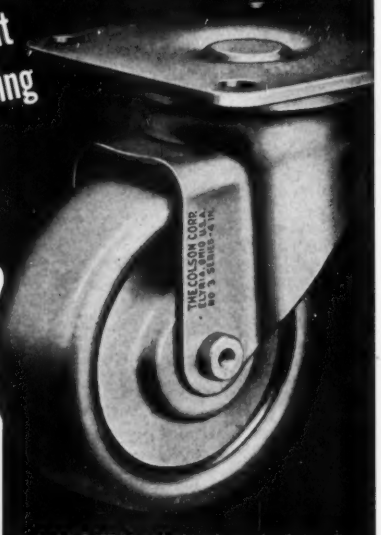
Construction is simple but sturdy. Ball bearings. Superior in production and quality.

Officine Meccaniche Cigardi Soc. Az., Milano, Italy

Exclusive Representative for U. S. A.

Rostan Machinery & Equipment Co., 75 West St., New York 6, N. Y.

Speed Up Your Old Equipment with New Load-Floating Colson Casters



Rolling equipment that doesn't roll easily reduces efficiency and profits in your mill. There are 1458 standard Colson casters—many designed especially for Textile mills. They roll easily over all floors, swivel freely, are rust-resistant. Many models have thread guards. Colson also manufactures a wide range of trucks for the Textile Industry—hand trucks, platform trucks, box trucks, drum and barrel trucks and special devices. Write us or consult your phone book for the local Colson office.

Model 3-427-16 with thread guards, designed especially for the Textile Industry.

Write Today For Free 68 Page Catalog

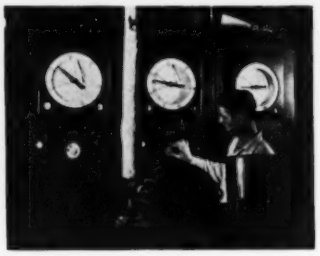
THE COLSON CORPORATION

ELYRIA, OHIO

CASTERS • • LIFT JACK SYSTEMS • • INDUSTRIAL TRUCKS

problem on cotton and rayon goods which have a considerable amount of resin finish.

▶ Georgia Mfg. Co., Columbus, Ga., saved 12% with the Lixate process on the amount of salt required to exhaust the dye bath.



***A 25% REDUCTION** in size formula in light sets was one cost-saving result at Avondale Mills, Sylacauga, Ala., of a new electronic size-cooking-control system installed for the preparation of backfill size used on a finishing tenter. An Electronik temperature recorder with air control, a Belfield diaphragm motor-control valve, a timer, pushbutton signal lights, and relays were supplied by Brown Instrument Co. Other savings attributable to this installation were increased uniformity in size, increased production, and elimination of boil-over in cooking.*

Avondale Mills personnel have stated that the control system paid for itself in direct savings in less than 90 days of operation.

▶ An Eastern mill eliminated the moiré effects it obtained in handling rayon taffetas by scouring the goods with American Cyanamid Co. Aerotex Softener H. Equipment used was regular mill equipment, and final savings from the application represented "a real economy."

▶ Murray Hosiery Mills Co., Murray, Ky., adopted the International Salt Co. Lixator-mixed brine process to help eliminate redyes, increase plant efficiency, and reduce operating costs.

FINISHING
And Allied Processes

Woolen—Worsted

▶ Botany Worsted Mills, Passaic, N. J., installed a Taylor semi-decater control and saved enough in time and uniformity of product to pay for the installation many times over in the first year of operation.

▶ An Eastern woolen mill used E. F. Houghton Co. synthetic detergent Cerfak 1301 to cut down a full hour on rinsing time in finishing. Traces of soap remaining in the cloth for subsequent dyeing were thereby no problem. The carryover of Cerfak 1301 into an acid dye bath did not harm the dyeing, but was even beneficial as a leveler. The detergent in the final analysis cost one-third as much as materials previously used.

(*Continued on page 248*)

INDANTHRENES

famous for quality

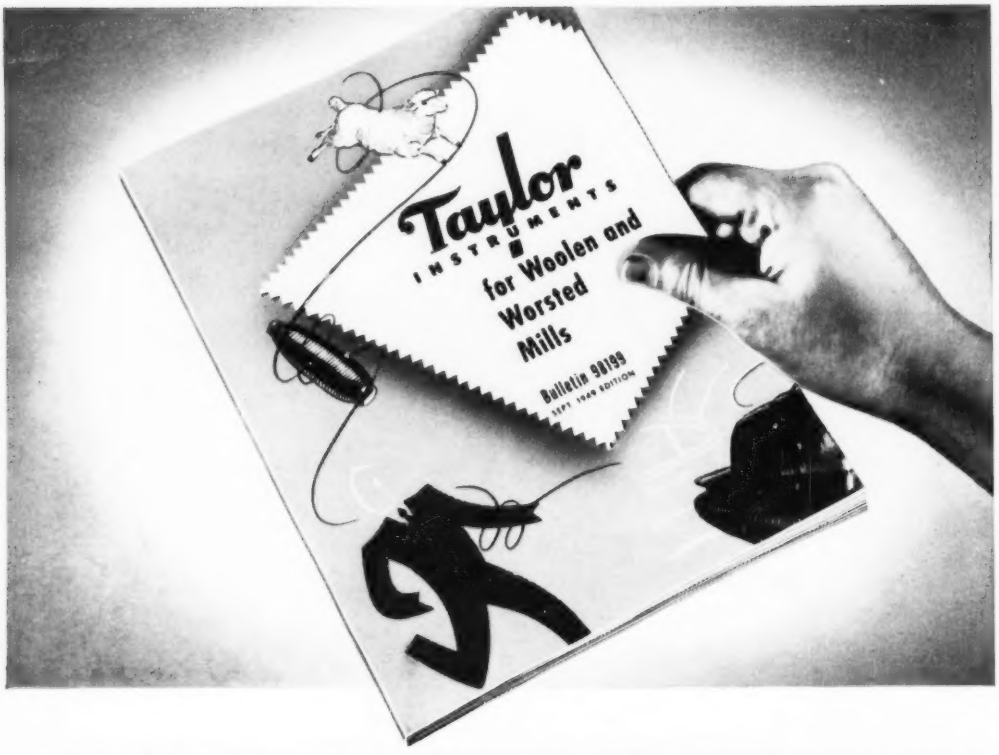
Brilliant colors . . . fast to light, laundering, chlorine and wear.

No other class of dyestuffs has the brilliance of shade and the range of colors combined with the unsurpassed fastness properties of Indanthrenes.

GENERAL DYESTUFF CORPORATION

435 HUDSON STREET, NEW YORK 14, NEW YORK

BOSTON • PHILADELPHIA • CHARLOTTE • PROVIDENCE • CHICAGO • SAN FRANCISCO



NEW TAYLOR BULLETIN SHOWS 10 WAYS TO CUT COSTS IN WOOLEN AND WORSTED MILLS

TO compete in today's market, you must cut costs in every operation. You'll find 10 proven automatic control systems designed just for that purpose in Taylor's new Woolen and Worsted Bulletin. Each system is clearly shown with an operational drawing or an actual installation photograph or both. Here are the processing phases covered:

1. Scouring Trains
2. Carbonizers or Dryers
3. Size Cooking
4. Size Storage Kettles
5. Size Boxes
6. Slasher Dryers
7. Package and Raw Stock dyeing
8. Piece, Skein and Top dyeing
9. Continuous Crabbers
10. Semi-decators and Full Decators

All this adds up to one fact. If you're interested in cutting costs of woolen or worsted processing, *Taylor Bulletin 98199* is a book you should study! Write Taylor Instrument Companies, Rochester, N.Y., or Toronto, Canada. *Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.*

Taylor Instruments
MEAN
ACCURACY FIRST
IN HOME AND INDUSTRY

It MUST be GOOD!

"NATIONAL" Nylon HEAT SETTING MACHINE

TWELVE *Now in Service...Several More on Order!*

There is the proof . . . that "NATIONAL" has the answer to efficient, safe, economical Nylon heat setting . . . the result of over three years' development work by "NATIONAL" engineers in co-operation with leading Nylon processors.

Here are some of the features that contribute to the successful operation of this machine and its spontaneous acceptance:

CONTINUOUS AUTOMATIC AIR COOLING SYSTEM . . .

an integral part of the machine that meets this vital requirement with fool-proof efficiency.

CONTROLLED, REPRODUCIBLE TENSION

effected by a patent pending arrangement under highly sensitive control.

BURNER OPERATION AND CONTROL . . .

The heated cylinders are equipped with automatically controlled gas burners which transfer their heat to a constantly circulated "Dowtherm" core. Temperature on each cylinder is individually adjustable by a controller sensitive to plus or minus 0.2°F.

A heat-reflective enclosure aids in maintaining greater uniformity and thermal efficiency. Exhaust gases are continuously withdrawn from each cylinder. Cylinder bearings operate at room temperature while cylinders are functioning at full heat. Micro-grooved roll surfaces reduce filling shrinkage.

LOW FUEL CONSUMPTION . . .

Careful tests have shown gas consumption of less than 85 cu. ft. per hour at a speed of 50 yards per minute.

* * *

The "NATIONAL" Nylon Heat Setting Machine is designed for continuous feed; a wide range of variable speeds; and operating temperatures up to 500°F. and higher. It is of rigid, durable construction, with every detail meeting the highest standards for quality and reliability.

* * *

Arrangements can be made to see a "NATIONAL" Nylon Heat Setting Machine in operation, and for running tests on samples of your own cloth in a standard unit. A phone call will take care of the details.

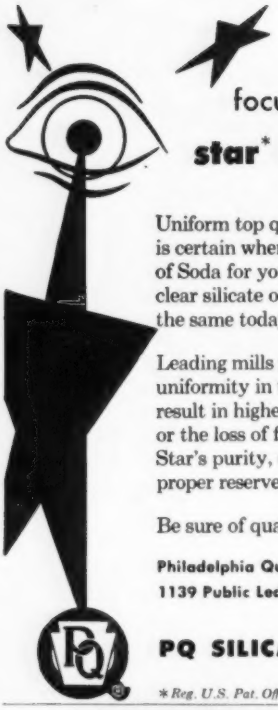
NATIONAL

THE NATIONAL DRYING MACHINERY CO.

HANCOCK ST. and LEHIGH AVE., PHILADELPHIA 33, PA.

New England Agent: INGALLS ENGINEERING CO., Providence, R.I.

Southern Agent: F. W. WARRINGTON, Charlotte, N.C.



focus on quality . . .

star* silicate

Uniform top quality from each and every peroxide bath is certain when you choose Star Silicate of Soda for your bleaching assistant. Star is that bright, clear silicate of high, constant purity, the same today and tomorrow as it has been always.

Leading mills rely on Star quality. Lack of uniformity in the alkaline content, for instance, can result in higher tensile strength losses, or the loss of full bleaching value from peroxide. Star's purity, clarity, stability, and proper reserve of alkalinity also save money.

Be sure of quality with Star Bleach Assistant.

Philadelphia Quartz Company
1139 Public Ledger Bldg., Philadelphia 6, Pa.

PQ SILICATES OF SODA

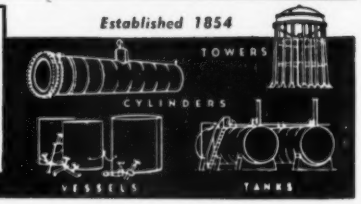
*Reg. U.S. Pat. Off.

DEPENDABLE WATER SERVICE

• For almost a century Cole elevated tanks have provided a dependable water supply for mills and communities. Cole quality is assured by careful, experienced designing and watchful supervision from blueprint to finished tank. Send us your inquiries for tanks from 5,000 to 2,000,000 gallons — stating capacity, height to bottom, and location. Write for latest Cole catalog—"Tank Talk."

R.D. COLE
MANUFACTURING CO.
NEWNAN, GA.

Established 1854



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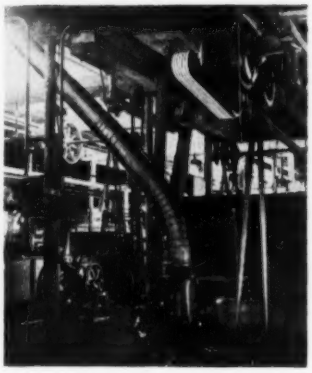
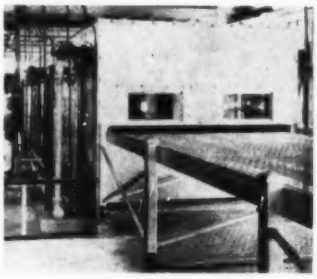
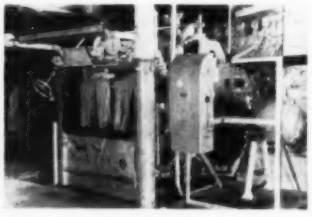


PRODUCTION LOSSES equivalent to 2 hr. per day were caused by slippage of a 14-in. wide flat on a wool dryer at Arms Textile Mfg. Co., Manchester, N. H. In addition, it was necessary to keep two spare belts on hand. The problem was solved by installing a Gates V-belt drive, and full production is now obtained.



AN EASTERN CARPET MILL recently installed a Process Heating Co. gas infrared and high-air-velocity system for drying and curing latex backing on carpets. The system operates at approximately half the cost of steam heaters and at an eighth the cost of electric heaters. Operating cost is a fraction of a cent per square foot of carpet.



DORR WOOLEN CO., Guild, N. H., installed two Riggs & Lombard Fleet-Line No. 65 stainless fulling mills which replaced six older-type mills by handling approximately 800 lb. of dry cloth at one time. Not only has overall labor cost been reduced, but the operator has less physical work to do than formerly.

(Continued on page 250)

For better laundry net, investigate the *Kidde Knitter*

Nylon net produced on the *Kidde* Knitter offers exceptional durability—plus these other features that laundries want:

1. The net is runproof, because each end is anchored. Even if snagging causes a hole, the hole will not spread.

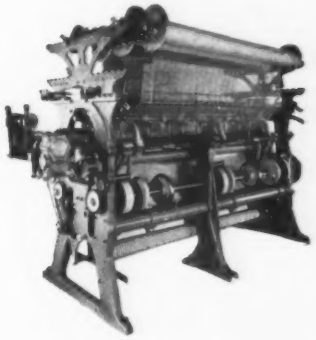
2. The net can be produced with large-size holes—giving better penetration by water and washing solutions than can be obtained with woven nets.

3. The holes will not close up when the net is full and under tension.

Of course, when you knit laundry net—or practically any other net—on the *Kidde* Knitter, you also get the advantage of *high-speed production*, with resulting savings in cost.

Use the Kidde Knitter on these fabrics too

ELASTIC FABRICS for corsets, girdles and brassieres. DRESS FABRICS. NETTINGS and VEILINGS. DISHCLOTH MATERIAL. CURTAIN FABRICS. NARROW FABRICS. SHOE CLOTH. KNITTED OUTERWEAR FABRICS for sweaters and polo shirts.



Free literature is available on the Kidde Knitter. Write for your copy.

The word "Kidde" is the trade-mark of Walter Kidde & Company, Inc., and its affiliated companies.

KIDDE MANUFACTURING CO., INC. • BLOOMFIELD, NEW JERSEY

it takes GOOD BEAMS to make good warps!

PROBLEM: ORDINARY BEAMS WON'T HANDLE THE PRESSURES OF NYLON AND RUBBER YARNS!

solution . . .

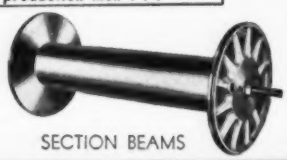
MILTON NYLON & RUBBER TRICOT BEAM

• FORGED HEADS
• RIGID BARRELS

Tested and proven under actual operating conditions, here is Milton's forged head beam designed especially to withstand extreme pressures encountered when warping tremendous yardages of monofilament; fine denier, low turn nylon; and rubber yarns! Heat-treated, aluminum alloy heads and barrels permanently joined with continuous heliarc welds. Write for complete information!

MILTON LIGHT METAL BEAMS are the result of years of close collaboration with mill production men . . .

• PERMANENT MOLD HEAD TRICOT BEAMS



SECTION BEAMS

MILTON MACHINE WORKS, Inc.
DESIGNERS — ENGINEERS — MANUFACTURERS
MILTON, PENNA.

Series 12 of typical "H-W" CONDITIONER applications:

"H-W" CONDITIONERS

in use by

BLOOMSBURG MILLS, INC.

The satisfactory performance of "H-W" CONDITIONERS in use by Bloomsburg Mills, Inc., in their Bloomsburg, Pa., and Lock Haven, Pa. mills has resulted in the installation of three "H-W" CONDITIONERS in their new Fernbrook Park Mill at Dallas, Pa.

View of Fernbrook Park Mill at Dallas, Pa.

*Trade-Mark Reg. U. S. Pat. Off.

Full Particulars in Bulletin UC-2, upon request.

The Industrial Dryer Corporation
STAMFORD, CONN.

(Continued from page 148)

KNITTING

APEX KNITTED FABRICS, INC., saved approximately 34% over previous equipment in its installation of Supreme Model-MJ knitting machines. Savings include increased speed and production; increased efficiency; lower labor costs on machine tending, servicing, and maintenance; and elimination of slitting and sewing of side seams and matching of stripes.

► A Northern hosiery mill increased its output of first-quality nylon hosiery from 88 to 89% on 20-den. multifilament yarn by using snag-resistant UBS Hosiery Finish HF-310, manufactured by Union Bay State Chemical Co. The improved finish contained lubricants and plasticizers, permitting it to be used directly in combination with the basic types of polyvinyl-acetate emulsions to which plasticizers and lubricants have not been added.

► Adams-Millis Co., High Point, N. C., on a 15-week test, found that Torrington pressed-rivet needles produced fewer seconds than screw-rivet needles. Only 21 pressed-rivet needles were removed during the test as the result of bent latches, as against 61 bent latches in the screw-rivet group. Advantage of the pressed-rivet needles was analyzed as coming from not needing to grind and weaken the needle cheek walls when riveting, as is done with screw-rivet needles. After the test, it was found that seven out of ten needles in the screw-rivet group had bent latches, whereas none were found in this condition in the pressed-rivet group.

MISCELLANEOUS

► Densten Felt & Hair Co., Philadelphia, Pa., formerly lubricated its hardening machine with an oil system with constant feed when the machine was in operation, most of the oil being recirculated through the bearings. Cost of oil per year was approximately $1,000; labor (cleaning lint from oil lines) approximately $500.

With a $700 automatic grease-lubrication system, present annual cost of auto-

Important advantages of Wyandotte Kreelon

guaranteed detergency

no objectionable odor

free-flowing flakes or powder

lighter color

maximum detergency

Since Kreelon* was introduced, Wyandotte engineers have been alert to ways of further developing this versatile detergent so as to have it meet industry's needs *exactly*. The result is today's Kreelon — an inexpensive synthetic detergent which is practically a *must* in modern cleaning compounds.

Kreelon is made under rigid manufacturing specifications and has 40-42% active organic content.

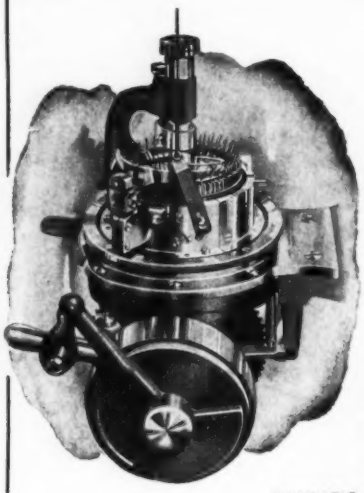
For information about properties and uses of Wyandotte Kreelon, write for the free booklet, "Kreelon."

*Reg. U. S. Pat. Off.

Wyandotte Chemicals Corporation
Wyandotte, Mich. • *Offices in Principal Cities*

SODA ASH • CAUSTIC SODA
BICARBONATE OF SODA
CALCIUM CARBONATE • CALCIUM CHLORIDE
CHLORINE • HYDROGEN • DRY ICE
SYNTHETIC DETERGENTS • GLYCOLS
CARBOSE (Sodium CMC) • ETHYLENE DICHLORIDE
PROPYLENE DICHLORIDE
AROMATIC SULFONIC ACID DERIVATIVES
OTHER ORGANIC AND INORGANIC CHEMICALS

Wyandotte
REG. U. S. PAT. OFF.



Argyle production

AT

MINIMUM **COST**

HARLEY-KAY-MARSLAND

SEMI AUTOMATICS ARE PRODUCING ARGYLES EFFICIENTLY IN MILLS THROUGHOUT THE WORLD.

AVAILABLE IN

4" DIAMETER — **80-112 NEEDLES**

4½" DIAMETER — **60-88 NEEDLES**

Complete Range of Accessories — For Information Write

GEORGETOWN **HARLEY-KAY-MARSLAND LTD.** ONTARIO

ESTABLISHED 1906

CANADA

HERE'S HOW PADDOCK'S "BATTERY FILLER" TRUCKS

Lower Weave Room Costs . . Improve Efficiency!

8 REASONS

- Saves Yarn . . . Reduces Handling
- Easily Operated in Very Narrow Aisles
- Easy to Maneuver . . . Reduces Fatigue
- All-Steel Chassis Welded throughout
- Stationary Band Prevents Loom Damage
- Exclusive Design–Patent Applied For
- Standard Holds 280 Fillings—Large 490
- Lightweight . . . Easily Handled by Women

BY comparing Paddock's "Battery Filler" Trucks with ordinary trucks, you can readily see the big difference in quality . . . and in savings to your company. Sold at reasonable price, our Trucks are expertly designed in an all-steel, all-welded construction for extra sturdy service. Check the following "proven quality" facts first . . . then write or phone us today!

J. C. PADDOCK CO.

SOUTH CHURCH ST. EXT.

SPARTANBURG, S. C.

John C. Turner, Box 916 — Atlanta, Ga.

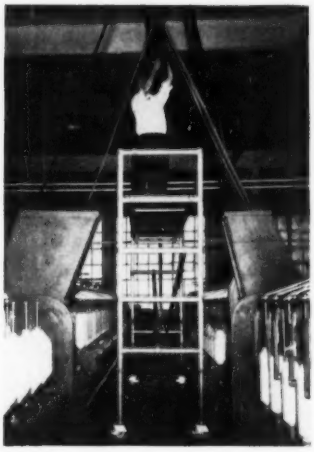
Textile Specialty Co., Greensboro, N. C.

Patent Applied For

"DAN RIVER" CHASSIS with CONTAINER. Here is the exclusive "Tilted-Type" that keeps your fillings at the lower end of the removable container . . . no stretching for fillings. Very light, it is easily handled by women. The "Dan River" Truck has the same fine quality construction details as the standard model . . . an all-steel, all-welded chassis. The stationary protective band prevents damage to the loom or container. Container holds 490 fillings. Box shown beneath tilted container is for defective fillings.

matic oil system on the hardening machine is $150 for material and practically nothing for labor. This change-over has brought a cash return of $1,350 per year.

The system consists of an electric barrel pump mounted directly on the 400-lb. grease drum; a timer-control valve unit, belt driven from the machine being lubricated; measuring units at lubrication points; and pipe and tubing between the various connections.



HANDLEY MFG. CO., Roanoke, Ala., uses three 10-ft. span-type Up-Right Scaffolds, made by Up-Right, Inc., saving much time and labor on maintenance, construction costs, painting, and relamping. No time study has been made of the equipment, but the mill says it has paid for itself as machinery need not be stopped.

***A BOXCAR IS UNLOADED** or loaded in three hours with one Hyster "20" lift truck with helper at Fulton Bag & Cotton Mills, New Orleans, La. It formerly required 30 man-hours to do the same job. Materials handled include 500-lb. 30x40 in. rolls of cloth, 1,000 to 1,400-lb. 30x40x40 in. bales of burlap, and 500-lb. 24x24x30 in. bales of sacks.*

► Illinois Felt Co., Chicago, Ill., now handles 620 bales of raw and finished material daily at a saving of $82.04 daily by using two Hyster "20" lift trucks instead of manpower. Bales weigh from 500 to

Which of These STALEY Men Works with You on Your Textile Starch Problem?

ALLEN R. FULLER

W. T. O'STEEN

J. W. McDONALD

GEO. A. DEAN

L. A. DILLON

WALTER HOPE

D. W. CHRISTMAN

W. H. RANDOLPH, JR.

H. A. MITCHELL

W. N. DULANEY

If you haven't already consulted one of these Staley representatives about your sizing problems and starch needs, do so right away! Take full advantage of their scientific knowledge, of the famous Staley laboratory that has guided textile men for more than a quarter of a century! Let a Staley man tell you AT NO EXTRA COST which starch is the best for each of your needs. Then, count on Staley to deliver the recommended starch in uniformly high quality throughout the years. Whether it be thin or thick boiling starch, Staley skilled laboratory technicians rigidly control it to give you dependable performance with every shipment. Write today for more details.

THE COMPANY BEHIND THESE MEN . . .

This is the great Staley plant where skilled laboratory technicians work to guarantee you consistently high quality starch to eliminate your sizing problems, and give your textiles improved weavability, constant weight and better finish.

STALEY STARCHES

Staley's CORN AND SOY BEAN PRODUCTS

"ECLIPSE," MILL*, and PEARL

*Thin Boiling

A. E. STALEY MFG. CO., DECATUR, ILL., U. S. A.

You Couldn't Find An Easier, Quicker Sudsing Soap or Flakes Than...

DRUMMOND

LEAVES FABRICS CLEAN . . . SOFTER . . . COLORFUL

As Free Sample Will Show You!

Both DRUMMOND Soap and Flakes have the advantage of high body and low alkali content . . . an advantage that instantly leaves fabrics clean with a downier feel, brighter color and whiter white.

We offer you a free sample to show you what we mean.

Easier—quicker-sudsing DRUMMOND—that's the answer to your cleaning problems.

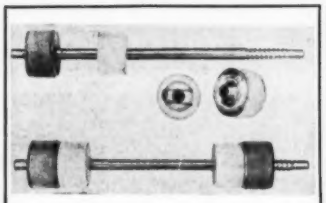
Write today for your ample-size sample of DRUMMOND Soap—just ask for Flakes or Solid.

TEXTILE OILS AND SPECIALTIES

Standard Soap Co. of Camden

205 South 2nd St.
CAMDEN, N. J.

James A. Greer, Southern Manager
P. O. Box 306, Greenville, S. C.



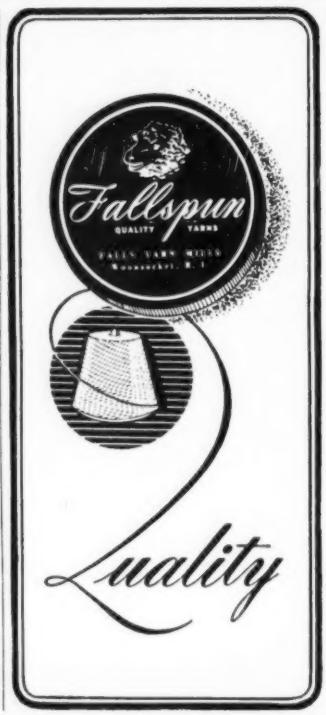
TWO BOBBIN SPINDLE

These Spindles are adjustable to the use of a long or short bobbin. Spacers of hard wood are self locking and removable.

We make these Spindles to your specifications so you can use two different length bobbins on the same spindle, on the same machine without changing the spindle.

WAYNE MANUFACTURING CO.
HONESDALE, PA.

Manufacturers of Textile Mill Supplies



700 lb., and are 60 in. high, 24 in. wide, and 36 in. deep. Finished bales are handled two at a time. The two Hysters with special rigging were able to move a 3,500-lb. machine at a great cost saving.

▶ Bibb Mfg. Co., Macon, Ga., saved much money through constant use of a 10-ft. span-type Up-Right scaffold, which can be operated by one man. It saved on floor maintenance because of its light weight. The equipment is now used on all overhead maintenance, such as painting, relamping, and replacement of motors.

▶ H. E. Bradford Co., Bennington, Vt., on a five-month test of its Pick instantaneous water heater, saved $1,133.25 in labor and coal. The plant had plenty of hot water and expected the new water heater to pay for itself in a year and a half.

JOANNA COTTON MILLS CO., Joanna, S. C., installed storage-battery-powered fork trucks to cut down on the "80% of the cost of production goes for handling" rule of thumb. Baled-cotton handling is now an almost continuous operation, with a reduction of more than 75% in the man-power previously used in an operation some 66% faster than under manual methods. Starch is also handled by the trucks in bulk loads instead of bag by bag. The trucks now move machinery, as well as handle bales of cloth from production to storage to outward shipment.

MILL MAINTENANCE

Improper Clutch Setting May Damage Machine

The friction clutch used on most spring-needle knitting machines to transmit power from the main shaft to the cylinder demands little attention. Adjustment is made by turning one setscrew. Since the adjusting operation is such a simple one, there may be a tendency to overlook the importance of obtaining the optimum setting.

Careless setting of the clutch can cause loss of production and early fa-

. . . for softer, smoother finish on cottons, rayons, woolens

aerotex* softener H is a synthetic type softener which gives fabrics added smoothness and suppleness. It produces a finish with superior softness of handle.

This highly efficient softener possesses other advantages as well:

1. Increases production when used on wool raw stock before carding.
2. Eliminates fabric floating, shock and other annoyances caused by static electricity.
3. Combines perfectly with synthetic resins to add softness to wrinkle resistant properties.
4. Prevents accidental moire in finishing acetate taffeta.

In this buyers' market an increasing number of mills are discovering that **aerotex softener H** imparts a superior and softer finish to cottons, woolens, silks and synthetics.

For complete details of simple application methods write for Textile Finishing Bulletin #111.

*Trademark of American Cyanamid Company

aerotex* softener H

AMERICAN Cyanamid COMPANY
TEXTILE RESIN DEPARTMENT

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Tel. Bound Brook 9-2000

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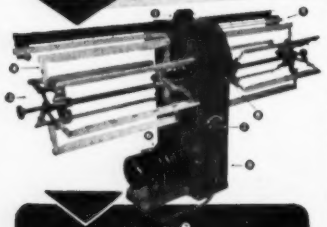
NEW YORK • PHILADELPHIA • PROVIDENCE • CHARLOTTE • CHICAGO

The New
FIDELITY SKEIN REELER
OFFERS THESE IMPORTANT
Improvements



❶ Automatic skein-weight control.
❷ Variable speed control.
❸ Free-end collapsible reels.
❹ Adjustable reel size.
❺ Adjustable yarn traverse.
❻ Automatic motor brake.
❼ Pedal brake release.
❽ Push button start-stop switch.
❾ Enclosed drive, safe, compact.

The most radical development in skein reeler design in more than forty years.

Operator efficiency may be increased from 25% to 100% depending on yarn processing methods.

Automatic features eliminate the necessity for constant attention, permitting one operator to service several machines.

Available single end or double end, handling from six to twelve skeins, these new skein reelers are a challenge to old-fashioned production methods. Write for the latest information on this marked advance in skein reeling.

Manufacturers of intricate precision machinery Since 1911

FIDELITY MACHINE COMPANY INC.

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3908 Frankford Avenue, Phila. 24, Pa.
Please send me at no obligation:
☐ Brochure, "The Fidelity Skein Reeler".
☐ Simplified Skein Reeler Production Charts.
Company_____
Address_____
Name_____ Title_____

tigue of the operator, or it may set the stage for major machine damage. The first two result from a loose clutch that fails to grab properly. In starting the machine, the operator must turn it by hand until the clutch picks up. When heavy overcoatings are being produced, it takes a lot of tugging to get the cylinder in motion. Slippage occurring while the machine is running causes loss of production.

A clutch that is set too tight starts the cylinder with a jerk. The yarn being fed to the burrs is jerked in instead of being pulled in in an even flow. This permits the yarn to become slack between tension points and, since it is out of control, to slide out of the burrs. Even more dangerous is the tendency of a tight clutch to "freeze. A machine running with a frozen clutch can ruin itself completely before emergency measures can be taken to stop it.

The best method of setting the clutch is to begin with a very loose setting and making tightening adjustments gradually until the optimum setting is obtained. The head should be started two or three times after each setting and the action carefully noted before further adjustment is made. When the clutch is set properly, it should make contact with a gradual but firm hold.

Regular lubrication of the contact surfaces of the clutch is important. Only a light film of oil should be applied each time. The clutch should be flushed with kerosene before each oiling. The kerosene bath removes gummy oil and oil imbedded with flock.

It is most important to prevent flock from accumulating on the clutch surfaces. Flock forms a pad between the metal surfaces, preventing positive contact and causing slippage. The indications are the same as with a loosely set clutch. If the clutch is tightened without first removing the flock pad, the setting will be too tight and the clutch may freeze.

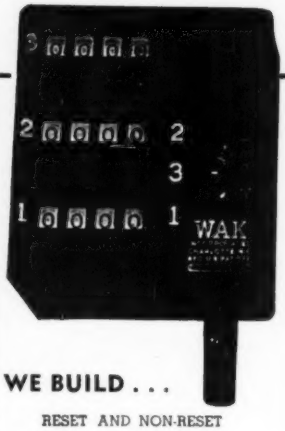
Protect Against Fire During a Shut-Down

Fire protection during a shut-down period must be better than during running periods, Associated Factory Mutual Fire Insurance Co. advises. There are fewer people on hand to discover and put out fires, and more dependence must be placed on preventing fires and having special crews available to fight them.

Here is a checklist to help you prepare for shut-downs:

1. Remove combustible waste material from buildings and yard, machines, under

You Can Count on
WAK*
COUNTERS
- **RUGGED**
- **DEPENDABLE**
- **ACCURATE**



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RESET AND NON-RESET
★ Single Pick Counters
★ Double Pick Counters
★ Triple Pick Counters
★ Hosiery Counters
★ Rotary Counters
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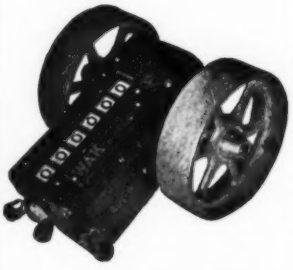
★ Yardage Counters
★ Folding Machine Counters
★ Hank Clocks
★ Special Counters



* T. M. Reg. U. S. Pat. Office

WAK
INDUSTRIES
CHARLOTTE N. C.

FLYING CARPETS?

Non-Skid, Bond, and Size them with **VULTEX**

The Original Pre-Vulcanized Natural Rubber Latex

This is what you get when you use Vultex on rugs and carpets:

1. **THE ORIGINAL PRE-VULCANIZED NATURAL RUBBER LATEX** with over 20 years of constant development behind it.
2. **AGING** — Maximum life through the proper use of anti-oxidants.
3. **CURE** — Precision-controlled pre-vulcanizing to the correct state of cure.
4. **CUSTOM COMPOUNDING** — The physical characteristics can be varied to meet individual requirements.
5. **NO COMPOUNDING REQUIRED BY THE CUSTOMER.**
6. **UNIFORMITY** — Every batch like every other to a very high degree.
7. **STABILITY** — Careful dispersing and compounding of the ingredients prolongs homogeneity of the compound.
8. **NO HEAT REQUIRED FOR CURING** — Eliminates expensive equipment and control necessary for "curing type" stocks.

Write direct to our laboratory for samples of Vultex or get in touch with our nearest representative.

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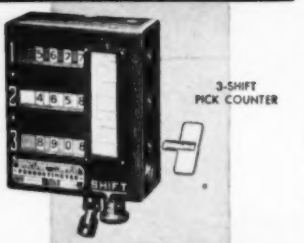
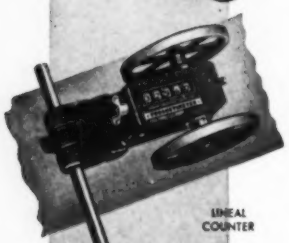
Exclusive agency in the U. S. A. for the sale of natural latex, centrifugal and normal from the Malayan plantations in the **HARRISONS & CROSFIELD** group.

PRODUCTIMETER
TEXTILE COUNTERS
for every application!





Productimeters meet every need of the mill man in providing accurate production records. They eliminate losses... help maintain maximum production... and supply an accurate basis for wage payment.

Send for Catalog No. 50

DURANT MFG. CO.
1931 N. Buffum St. Milwaukee 1, Wis.
131 Orange St. Providence 3, R. I.
Representatives in Principal Cities

PRODUCTIMETERS
SINCE 1879 *Speedometers* OF INDUSTRY

tables or benches, under stairways, and in machine or elevator pits.

2. Clean lint from machines, floors beams, walls, ceilings, and fixtures.

3. Clean storage areas. Make sure that sprinklers are unobstructed and that alleys have been maintained.

4. Remove liquids from dip, cleaning, and mixing tanks, or cover tanks tightly.

5. Move liquids from process areas and store them in buried tanks or tightly covered containers in a safe, sprinklered storage area.

6. Move drums of liquids to safe storage areas, preferably in detached buildings.

7. Shut discharge valves on butane or propane storage tanks (unless used for necessary heating).

8. Shut off pumps supplying fuel oil under pressure to plant distribution piping except where needed for building heating.

9. Make sure that gage glass valves are shut.

10. Prevent improper vapor leakage by keeping tanks tightly closed.

11. Make sure that individual burner valves and the main valve for each heating-equipment unit are shut off.

12. If possible, shut off main valves outside buildings or at meters.

13. Disconnect or shut off cylinders at manifolds.

14. Reduce the number of portable cylinders in main buildings to a minimum.

15. Maintain electric lights in service.

16. Maintain power for fire pumps, oil burners, and possibly elevators.

17. Open switches on all circuits that will not be in use.

18. De-energize transformers except those providing power for fire pumps, etc.

19. Maintain sufficient steam to heat buildings and supply fire pumps.

20. Guard against freezing of automatic sprinkler systems.

21. Keep all steam-control and relief valves in good operating condition.

22. Provide for emergency boiler-water feed if there is none.

23. Keep watchmen on duty and have them record their rounds 24 hr. a day.

24. Arrange watchmen routes to cover the plant.

25. Re-examine watchmen and plant patrolmen to test their knowledge of the protective equipment and of their regular and emergency duties.

26. Thoroughly train substitute watchmen or extra men temporarily employed as watchmen.

27. Inspect every sprinkler valve to be sure that it is open, sealed, and accessible. Record conditions in detail.

28. Check all the other protective equipment — dry-pipe valves, sprinkler alarms, fire pumps, tanks and other water supplies, hydrants and hose equipment, hand extinguishers, and fire doors. Correct any defects.

29. If cutting or welding is to be done, appoint a competent supervisor. Use written permits for the specific work to be done. Avoid welding in the vicinity of combustibles, unless the material can be protected adequately from sparks. Station extra men with small hose or extinguishers to watch for sparks.

30. If alterations require shutting off the

USES SHORTCUT...

...to Buying Information

Mr. C. W. Hampson is the busy General Manager of the Clinton Silk Mill, Holyoke, Massachusetts. He finds McGRAW-HILL PRE-FILED TEXTILE CATALOGS a time-saving "shortcut" to locating product information concerning textile equipment, materials, supplies and services.

Here are Mr. Hampson's comments concerning TEXTILE CATALOGS, "*I frequently use your catalog and find it to be most helpful and satisfactory as a time-saving and easy reference guide in locating manufacturers of specific articles.*"

If PRE-FILED TEXTILE CATALOGS is not available for buying reference at your mill, write to McGRAW-HILL CATALOG SERVICE, 330 West 42nd Street, New York 18, N. Y. There is no charge to qualified users.

Specified by textile leaders for 68 years

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THIN BOILING STARCH

- Always uniform
- Always dependable
- Boils thin

The services of our technicians are always available without obligation.

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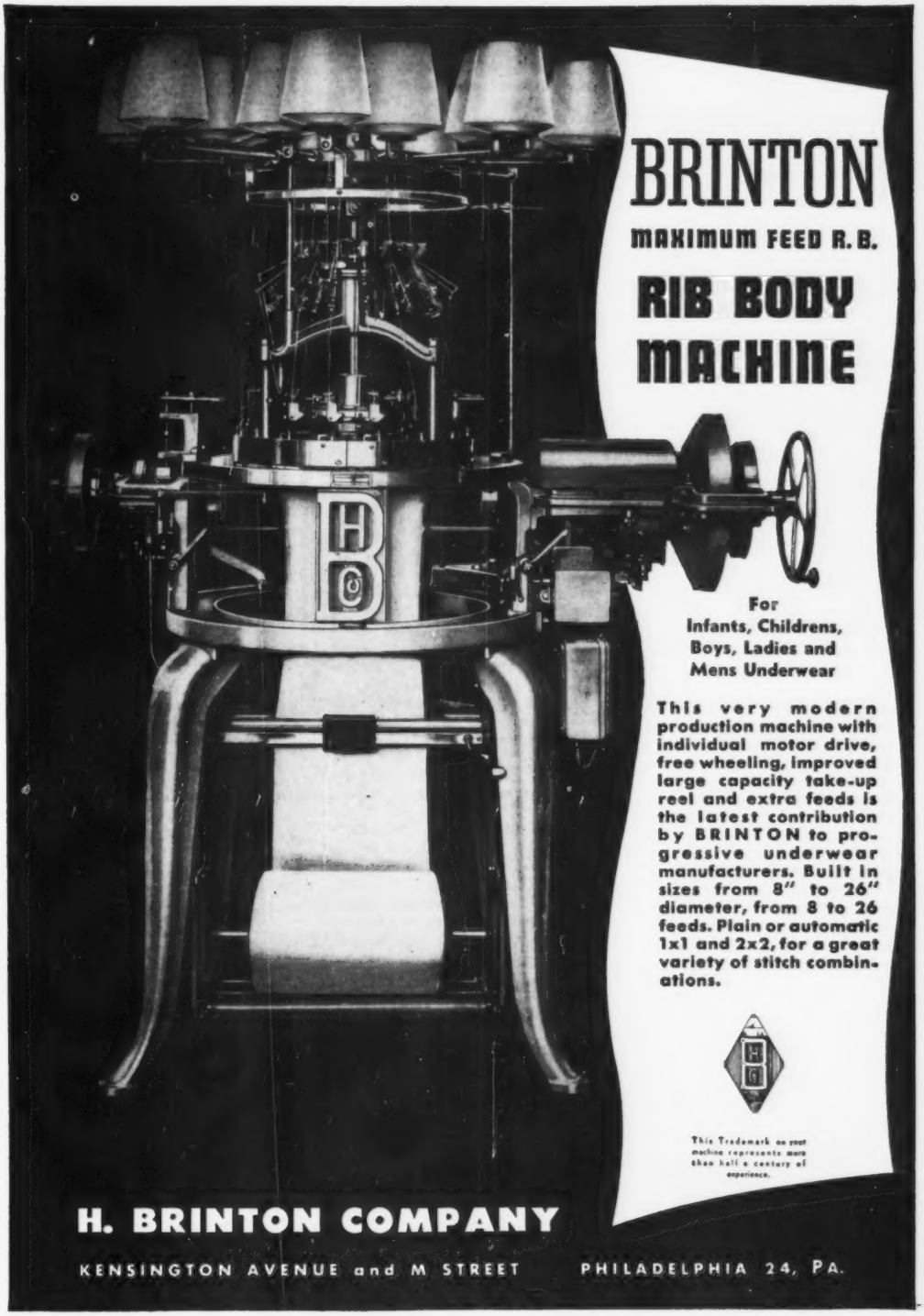
BRINTON
MAXIMUM FEED R. B.
RIB BODY
MACHINE
For
Infants, Childrens,
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This very modern production machine with individual motor drive, free wheeling, improved large capacity take-up reel and extra feeds is the latest contribution by BRINTON to progressive underwear manufacturers. Built in sizes from 8" to 26" diameter, from 8 to 26 feeds. Plain or automatic 1x1 and 2x2, for a great variety of stitch combinations.
This Trademark on your machine represents more than half a century of experience.
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Humidification
Serving the
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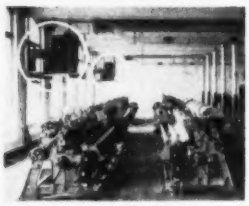
STORAGE



KNITTING

JAQUARD

- EVEN DISTRIBUTION OF MOISTURE
- NO STEAM, SPRAY OR MIST

Leading textile mills are maintaining the proper amount of moisture in the air with Air-Perme-Ator "Dry" Humidification systems. Air and water are combined in a blend so fine that it cannot be seen. There is no spray, steam or free moisture present, only a washed, filtered, and circulated humid air.

Information on "Dry" humidification and complete air conditioning is yours on request.

AIR-PERME-ATOR
MFG. CO.
300 Preakness Ave. Paterson 2, N. J.

sprinkler system, obtain permission in advance from the insurance company. Use "Sprinkler Valve Closed" tags (red). Shut off as small an area as possible. Keep a man stationed at the closed valve to open it at once if fire breaks out. Push work vigorously to completion. Do not leave sprinklers shut off overnight.

31. Keep all fire-protective equipment in order.
32. Test all automatic protection and safety devices.
33. Before starting machines, check lubrication, cooling, and adjustments.
34. Make sure all burner valves are shut before main gas valves are opened.
35. Ventilate equipment thoroughly.
36. Assign only experienced burner men to light-off equipment. Follow established safe procedures.
37. Open motor control switch at each machine before feeder switches are closed.

Inspection of Turbines Is the Best Insurance

Satisfactory operation of a steam turbine depends largely on the program of inspection and maintenance, according to information released by Westinghouse.

The engineer should set up an adequate program to provide for inspection and maintenance and should keep careful records on the operation of the turbine and the repairs made. These records may be useful in determining the schedule for general inspection of the equipment.

Generally, a new turbine should be checked thoroughly after a year of operation. Such defects as foreign-matter deposits on the blades, erosion of the blades, dirt or rust in the oiling system, or mechanical strain on internal parts may be found. Results of this first-year inspection may indicate to the engineer how long it will be safe to run the turbine before the next thorough check.

Temperature and pressure changes nearly always result from one or more conditions that call for turbine maintenance. For example, pressure records made under a given load condition may be useful in checking on the cleanliness of the blades. Deposits of carry-over from the boilers will cause an increase in pressure by restricting the flow of steam.

Mechanical unbalance or misalignment will result in excessive vibration. Immediate attention should be given this condition. Vibration should be checked and the results recorded at regular periods. A slight increase in vibration should be corrected.

At the year-end and other inspections that require a complete dismantling of the turbine, have a representative from the manufacturer present to pass on the condition of the parts.

REPRESENTATIVE WANTED

to sell
MELLOR BROMLEY
CIRCULAR KNITTING
MACHINES
IN THE U. S. A.

Mellor Bromley and Co. Ltd., Leicester, England—builders of the famous Mellor Bromley Interlock and other underwear and outerwear machines—seek a live organisation to sell their products in the U.S.A.

Please write to:—

The Sales Manager
Mellor Bromley and Co., Ltd., St. Saviour's Road,
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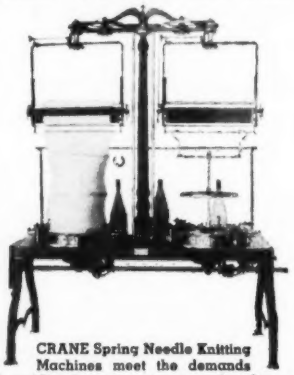
1870 **CRANE** 1949
SPRING NEEDLE KNITTING MACHINES
Speed · Quality · Low Cost



CRANE Spring Needle Knitting Machines meet the demands of rapidly changing patterns and styles on all weights of fabrics.

CRANE
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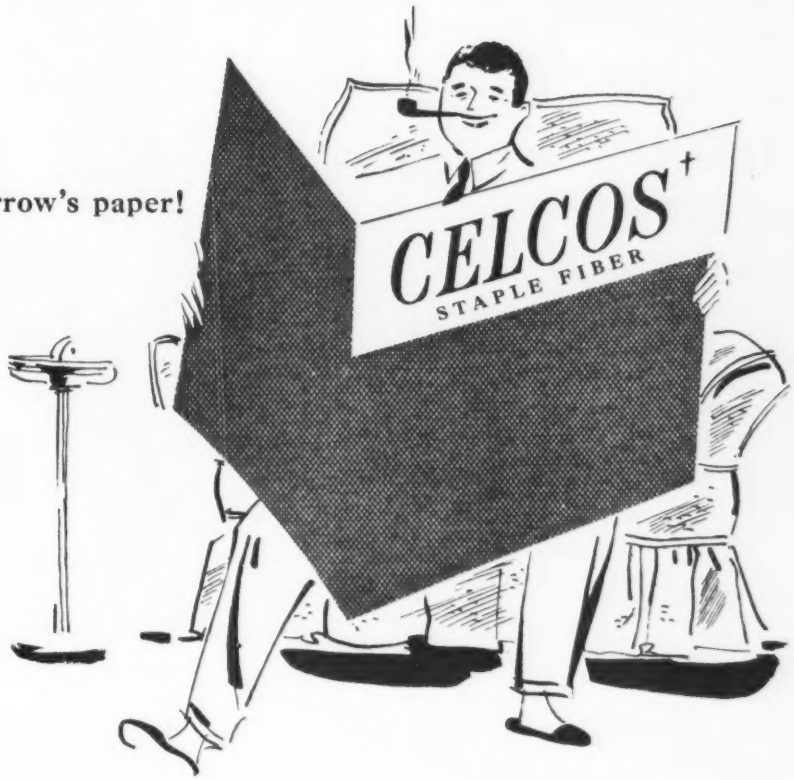
new as tomorrow's paper!



Many highly desirable features of both acetate and viscose rayons are now available in *one fiber!*

Combines in one fiber – fullness of hand, unusual resilience and the ability to cross-dye with either acetate or viscose.

Let Celanese help you to develop new markets through new fabrics – fabrics containing CELCOS, the first new member of the rayon family in 20 years.

CELCOS is available only in staple fiber form. It may be spun 100% or blended with other fibers.

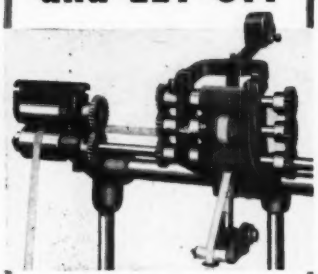
Celanese Corporation of America, 180 Madison Ave., New York 16.

Celanese* STAPLE FIBER OF ACETATE RAYON

*Reg. U. S. Pat. Off.
†Trademark

Improved

BRAIDER TAKE-UP and LET-OFF



NEW

NEBUTTCO

FEATURES

Give Better Performance

TAKE-UP

- Specially designed *cut* gears of finer pitch for smooth running.
- Gears on both sides give equalized, uniform drive.
- Wide spacing between gears reduces tilting of rolls and assures more constant tension.

LET-OFF

- Special gears having *cut* teeth of fine pitch for smooth drive and uniform tension.

This improved Braider Take-Up and Let-Off consistently produces first quality braid of uniform width and can be installed readily on existing braiders.

Ask for further details and prices

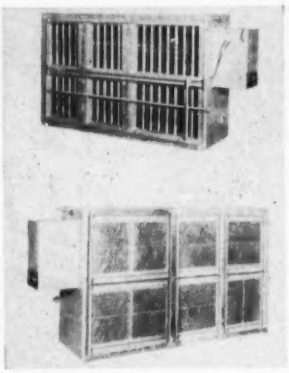
NEW ENGLAND BUTT COMPANY

Established 1842

304 Pearl St., Providence 7, R. I.

TEXTILE *Equipment* NEWS

(Continued from page 172)



***SAFETY IS PROVIDED** by the construction of this air-filtering unit; no part can be removed without removing screws which cut off high-tension power.*

from air streams passed through them. When the unit is installed into the duct work of air-circulating or air-conditioning systems, mills are said to be assured of cleaner yarns, protection of high-speed machinery, and higher employee efficiency.

Trion electric air filters are built for maximum life and minimum service. The units are so designed that assemblies can be quickly removed. The filter consists of three major parts: the ionizing-collecting cell of fine tungsten wires suspended in front of and between a series of parallel aluminum plates on which foreign particles are collected; a power pack with transformer and rectifier tubes for supplying high-voltage current to the cell; and a water-wash system for automatically washing dirt from the collecting plates. The filter is said to operate with complete safety, since no access may be had to any part of the equipment without the removal of safety screws which automatically shut off all high-tension power. Except for very large sizes, or where otherwise specified, most Trions are shipped fully assembled so that labor expenses are held to a minimum.

Features of the Trion unit include: all-aluminum, one-piece ionizing collecting cell; built-in water-wash system of improved design, built-in glass-wool on clean-air side to help diffuse air and trap any blow-off which may occur under unusual circumstances; complete framework of rust-resistant, structural steel; side and top panels for cabinet.

To request further information, please use the card on page C of the Reader-Service dept.; refer to T-150.

WILTEX

ALUMINUM CLOTH ROLLS

Heat-treated aluminum castings, funnel shaped on inside to facilitate insertion of through shaft
High strength heat-treated aluminum alloy tubing. Free from splintering & distortion, cannot rust and no fire hazard
Now in Standard Use in Many Mills
Wilgrip Special Finish eliminates need for starting slot on irregular, contoured roll.
Heat gas welded joint. Standard sizes 3-½" & 4-½" diameter, any length, other sizes quoted on request. Journal ends can be furnished.

WILTEX, INC.

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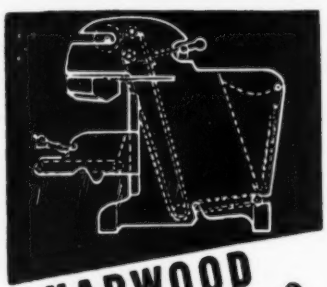

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Insure Maximum Uniform Feeding

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Specialists in Textile Feeding Machinery Since 1863

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(2) Tradition or Progress
(3) Reputation or Performance
(4) Facts or Claims
(5) Take it or Leave it
(6) A Challenge

CABLE ADDRESS EDMOSCORP, NEW YORK

EDMOS PRODUCTS Corporation

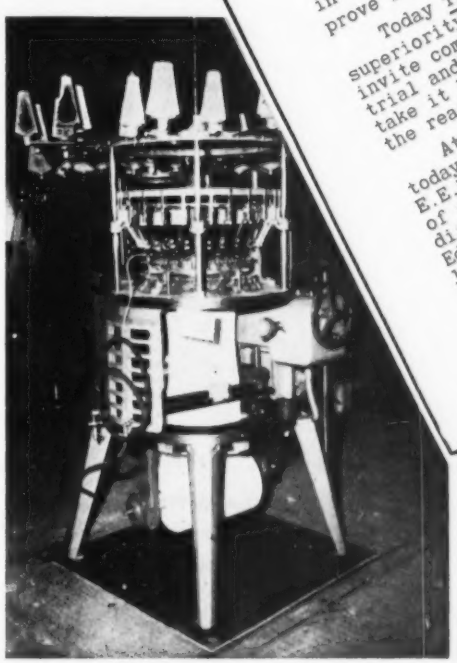
13 CHRISTOPHER AVENUE BROOKLYN 12, NEW YORK DICKENS 2-0172-3

TAKE IT OR LEAVE IT

There's a pot of gold for the man who knows the right answers either on the air or in the mills. Today's answers, however, are not so simple, but the objectives are the same. Your old machines can't compete with new machines, but the in competition there's always one machine that can prove its superiority.

Today Type E.E.M. Edmos has proven a definite superiority in many mills throughout the world. We invite competition. You may take Edmos, give it a fair trial and if it doesn't prove its superiority we will take it back without obligation. Before you buy, know the reason why.

At the recent knitting Arts Show where most of today's machines were shown in operation, our Type E.E.M. Edmos was producing up to 2½ times the poundage of another make. There's a difference—a great big difference, even in today's models. Better investigate Edmos before you buy. Write Dept A for descriptive literature.



Built in the following sizes
1x1 or 2x2—8 to 16 cut

12"—16 feeds	18"—27 feeds
13"—18 feeds	19"—28 feeds
14"—20 feeds	20"—30 feeds
15"—22 feeds	21"—31 feeds
16"—24 feeds	22"—33 feeds
17"—25 feeds	23"—34 feeds
	24"—36 feeds

ILLUSTRATED: Type EEM Edmos as shown at the 1949 Knitting Arts Exhibition

"Rapid Transit"

Dary Ring Travelers are famous for their long life at high spindle speeds. They've earned their reputation as "Rapid Transit" Travelers!

Mill men know they can put a Dary Traveler on their fastest, most demanding spinning assignment with full confidence that the job will be done better. They know that the exclusive Dary Process has conditioned each Dary Traveler with hard, smooth durability that makes it wear longer on any type or count of yarn—and at "Rapid Transit" speeds.

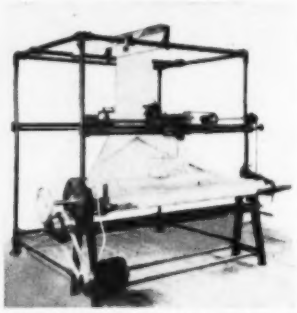
Call your nearest Dary representative. He'll show you how Dary Ring Travelers can increase efficiency in your spinning room.

PROCESSED
SYMBOL OF SUPERIORITY

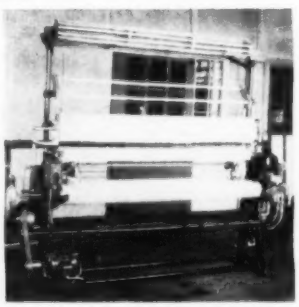
THE DARY RING TRAVELER CO.
TAUNTON, MASSACHUSETTS

John E. Humphries, Box 843, Greenville, S. C.
John H. O'Neill, Box 720, Atlanta, Ga.
James H. Carver, Box 22, Rutherfordton, N. C.
Crawford Rhymer, P. O. Box 2261, Greenville, S. C.

Two Machines Speed Tricot-Fabric Finishing



A SLITTING AND OPENING machine cuts the sewed edge off "narrow" 54-in. tricot fabric in tubular form and opens it to full width. This machine and the one shown below are produced by Grand Rapids Textile Machinery Co., 1405 S. Division Ave., Grand Rapids, Mich.



COMBINATION FINISHER AND SLITTER cuts the sewed edge off wide 108-in. tricot fabric in tubular form and forms two single thickness rolls 54 in. in width.

USEFUL ACCESSORIES *for the Textile Mill*

A new translucent plastic vent plug for batteries, named "Televel," has been developed by Gould Storage Battery Corp., Trenton, N. J. The plug is designed to tell at a glance whether the battery needs water. Maintenance men can determine electrolyte levels without unscrewing the plug. Additional advantages claimed are: unnecessary watering is avoided, filling is assured when required, passed-over cells are detected, and better supervision results. The translucent plug has a cylindrical element which projects down into the electrolyte. When the electrolyte is at the correct level, the top of the plug shows a black circle. When the level is low, a white circle appears, indicating that water is required.

A valve-type sight glass which permits observation of the clarity or turbidity of transparent liquids flowing under pressure through pipe lines has been developed by Worthington Pump & Ma-

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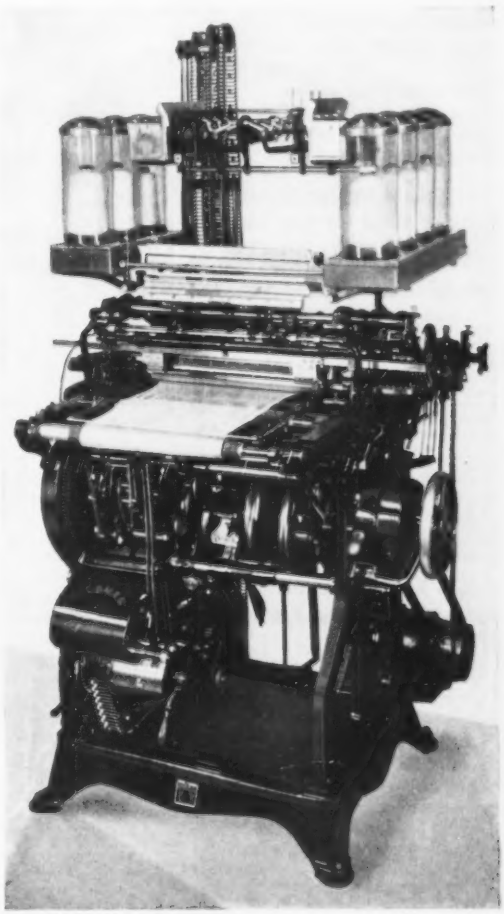

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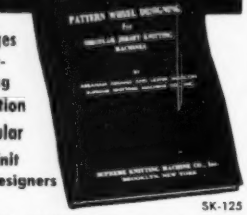

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PATTERN WHEEL DESIGNING FOR CIRCULAR JERSEY KNITTING MACHINES

By ABRAHAM ABRAMS and LESTER MISHCON

Supreme Knitting Machine Co., Inc.

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A Design Handbook (5" x 7") That *Shows* As It *Tells*—One hundred and seventeen (117) photographs, drawings and diagrams let you examine every important detail described in the text. Straightforward, step-by-step explanations are illustrated by working out actual design problems as examples.

Written by authorities on the subject, the book presents both basic and advanced information on knitting. It includes an illustrated glossary of common knitting terms and gives a complete, diagrammatic description of the mechanics of knitting. The knit, tuck, welt and cast-off needle positions are clearly shown and their functions explained. The knitter is shown how the various plain and fancy fabrics are produced. Magnified photo close-ups show stitch formation in minute detail. A complete course in knitting all in one book.

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chinery Corp., Harrison, N. J. Differential pressure is established across the deflector to allow some of the liquid to circulate continuously through a glass observation bowl. A special feature is provided by the valve which permits the removal of the observation bowl for cleaning. Originally designed for observing the clarity of hot water, the valve-type sight glass can be used in any system through which transparent liquids flow.

A dry-chemical-type fire extinguisher has been developed by the C-O-Two Fire Equipment Co., P. O. Box 390, Newark 1, N. J. It is claimed that extended tests prove the extinguisher to be one of the most efficient, foolproof, easy-to-use types known. The extinguisher is a self-contained unit with no extra gadgets or complicated mechanisms. The C-O-Two dry chemical is free flowing—no syphon tubes or valves within the cylinder to become clogged or inoperative. The discharge hose and nozzle remain empty until fire extinguisher is actuated. The dry chemical used is said to be non-conducting, non-corrosive, non-freezing, non-toxic, and is highly effective on flammable liquid and electrical fires.

A twin oxy-acetylene hose in which two lengths, one red and the other green, are joined by a thin strip of rubber has been developed by B. F. Goodrich Co., Akron, Ohio. The hose, marketed under the name Duo-Weld, employs the same high-quality compounds utilized in the company's standard single hose for oxygen and acetylene.

Molded finish cover is smooth, and the tube is exceptionally smooth and uniform. Reinforcement consists of one braid of high-tensile-strength hawser-cord cotton yarn which, in the ¼-in. size, gives strength comparable to the two-braid single-line construction. The rubber strip joining the two hose lengths is said to be of high-quality rubber stock with extreme flexibility.

Dyestuff Recommended For Lining Shades

Immediate commercial availability of a straight, direct acetate brown, Eastone Brown 2R, in the line of Eastman acetate dyestuffs has been announced by Tennessee Eastman Corp., 10 E. 40th St., New York 16, N. Y. This dyestuff dyes acetate fibers a reddish brown and nylon a slightly duller shade. Unique shade and fastness properties attributed to Eastone Brown 2R are said to make it a valuable color for shading and for producing deep tertiary shades on a variety of fabrics which must meet certain fastness requirements. The dye is recommended by the manufacturer as the base color, in conjunction with the gas-resistant azo blues, in formulating lining shades.

The designation Eastone identifies this dye as belonging to the Eastman series of dyestuffs which are dischargeable, as well as usable for plain dyeing.

Shipments of Eastone Brown 2R will be made from Tennessee Eastman Corp., Kingsport, Tenn., and Lodi, N. J.; and in Canada through Clough Dyestuff Co. Ltd., St. Laurent, Que.

To request further information, please use the card on page C of the Reader-Service dept.; refer to D-23.

Flame-Resistant Finish Is Highly Durable

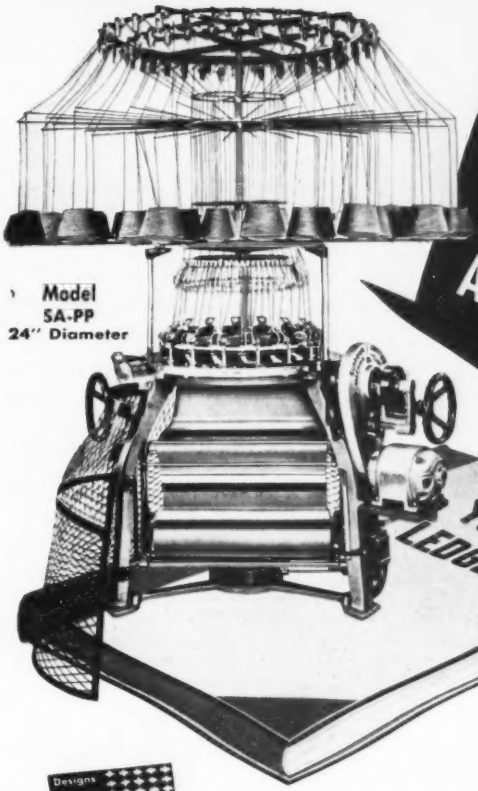
A new flame-resistant chemical for cotton and rayon fabrics, said to give flame resistance which is durable to dry-cleaning, normal home laundering, and weathering, has been developed by E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del. The chemical is said not to change the appearance or hand of the material. The product has been given the trade-mark Erifon.

When rayon and cotton fabrics are properly treated with Erifon, they will not support combustion, the company states. The degree of flame-resistance achieved surpasses the most exacting fabric flame tests of government and industry, it is claimed.

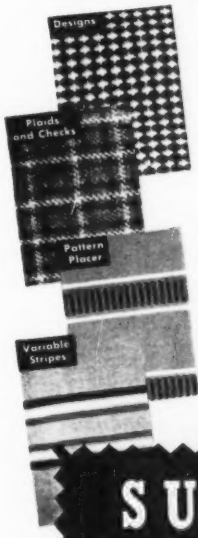
A flame held to treated material will char the fabric at the point of contact but the flame does not spread, the company states. The effect is particularly striking in highly flammable materials such as tufted or napped cellulosic fabrics, which ordinarily burst into flames when ignited. When properly treated with this new chemical, the fabrics merely char, and then only at the point of contact for as long as the flame is applied.

Tests indicate that the retardant remains effective in fabrics after more dry-cleanings and normal home launderings than they would usually receive in their lifetime. However, it is not durable to the acid sours and alkalis customarily used in commercial and industrial laundries.

Erifon flame retardant is said not to affect adversely the hand, nor does it change the draping qualities of materials. The product does not stiffen or weaken them, and at most adds only 15% to the weight. Fabrics



HERE'S WHERE THE FEATURES IN SUPREME'S AUTOMATIC STRIPERS Pay Off

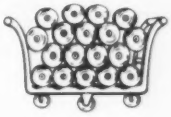


Profits show up immediately when you put the exclusive features of Supreme's SA-PP to work for you.

Here's why. Stationary yarn stand and new, unique striping system make it the World's Fastest Striper . . . 30% more poundage. Synchronized Cutters* eliminate all waste. It's simple and versatile. With Automatic Pattern Placers* you can knit plaids, checks, designs, variable stripes or Pattern Placer cloth on one machine.

Keep ahead of your competition. Investigate the Model SA-PP today. Write for free cloth samples and the booklet, "Variable Stripes and Plaids Pay."

EXCLUSIVE FEATURES!

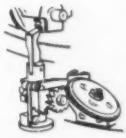


30% FASTER

The cylinder and take-up revolve at 24 RPM.

"NO-WASTE" CUTTERS*

Synchronized cutters clip off and hold yarns going out of action, eliminating all waste. No heavy seam. No need to reverse cloth for finishing.



AUTOMATIC PATTERN PLACER*

Lets you place patterns wherever you want in plain or striped jersey. Uses 3-Level wheels.

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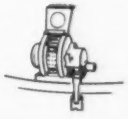
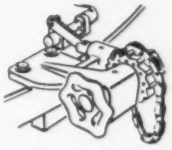
Assures trouble-free, long-life operation at continuous, super-fast knitting speeds.



INDIVIDUALLY CONTROLLED, FOUR-COLOR STRIPING BOXES*

Make stripe selecting simple and flexible. Infinite stripe and design variations. Can be manipulated to produce six-color striped fabrics.



SIMPLE STRIPING CONTROL MECHANISM*

A simple, short chain with only two types of links gives varied stripe selection desired.

*Patents Applied for

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treated with Erifon have no irritating effect on the skin.

Many types of cotton and rayon materials as well as cotton yarn have been successfully treated on a commercial scale. These include cotton sheeting, flannels, chenille yarn, twills, poplins, and ducks; and rayon marquisettes, plushes, napped knit fabrics, and napped woven fabrics, and others. Research work is continuing in an effort to make the process satisfactorily applicable to other types of fabrics, to cotton and rayon staple, and to continuous-filament rayon yarn.

Erifon gets its durability from its chemical reaction with the cellulose molecules of rayon and cotton. This reaction also accounts for the fact that it does not change drape, hand, or strength and does not cause stiffness. It is not a coating.

Erifon is a solution of titanium and antimony salts. Scientific theory about the product is that it reacts with cellulosic molecules and is locked into the structure of the fibers, rather than merely coating the surface. It changes the fibers chemically but causes no change in physical properties.

To request further information, please use the card on page C of the Reader-Service dept.; refer to D-24.

Acetate Red Is Exceptionally Light-Fast

The first of a new family of dyes for cellulose-acetate fibers, Eastone Red GLF, has been announced by Tennessee Eastman Corp., 10 E. 40th St., New York 16, N. Y. The new dye is said to be exceptionally fast to light even in pastel shades, and to surpass by far any known acetate red in this respect. Other properties claimed include excellent fastness to gas fading, sublimation, crocking, and hot pressing, as well as very good fastness to perspiration and washing. Very good dischargeability is also reported.

Eastone Red GLF is a homogenous, highly dispersed dye which produces a medium shade of red with a yellow cast. The dye possesses good exhaustion and level-dyeing characteristics with very good penetration and build-up at temperatures of from 160° to 190° F.

To request further information, please use the card on page C of the Reader-Service dept.; refer to D-25.

Agent Conditions Fibers, Eliminates Streaky Dyeing

A new product, called CC-101, said virtually to eliminate redyeing, is being sold by Brownmil Ltd., 114 Greenpoint Ave., Brooklyn, N. Y. Made with coffee, and other ingredients, CC-101 is neither saponified, nor sulphonated. The product has outstanding qualities of leveling, softening, penetrating, deodorizing, and bleaching, the company states.

The action of CC-101 in the dye bath is said to retard the dyestuff at the beginning of the bath until such time as the fibers have been conditioned to absorb the dyestuff. This action eliminates streakiness and uneven dyeing, it is claimed.

From practical experience in textile dyeing and finishing, the following results are said to have been obtained with the use of CC-101 in the dye bath: even and level dyeing; a softer and fuller hand to the goods; a brighter, bloomier and clearer dyeing; and a saving in chemical costs.

CC-101 may be used by itself, or with a small amount of sulphonated fatty alcohol or similar products. CC-101 is also said to be easy to use. A little more or a little less than the exact formula prescribed by the dyer will in no way harm the bath or alter the quality of the goods, the company states.

To request further information, please use the card on page C of the Reader-Service dept.; refer to D-26.

Rubber-Like Coating Is Corrosion-Resistant

Rubber-like plastic fabric-coating materials, said to possess many chemical properties lacking in both natural and synthetic rubbers, have been developed by the Organic Coatings Div., United Chromium, Inc., 51 E. 42nd St., New York 17, N. Y. These new materials are known as Unichrome Plastisol and Organosol compounds. Advantages include outstanding resistance to a wide variety of chemicals and corrosives, excellent resistance to mechanical abuse such as abrasion, high dielectric strength, and easy handling.

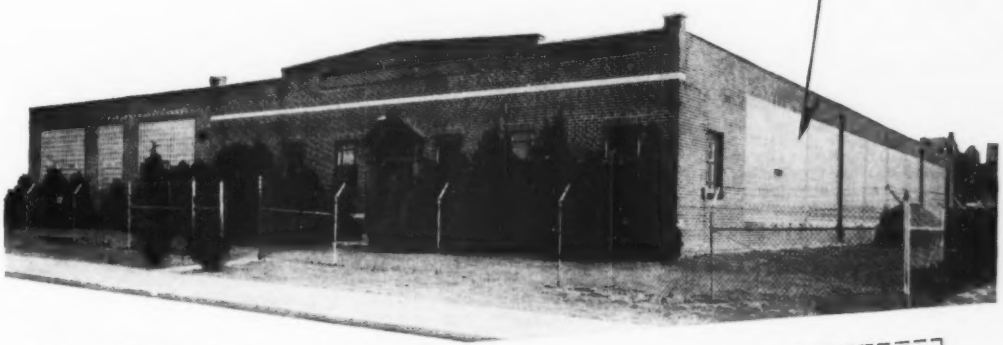
Unichrome Plastisols and Organosols are delivered in paste-like form. The plastisols contain 100% solids, while the organosols contain a small percentage of liquid solvent or diluent. They can be applied as coatings to fabric by dipping, spraying, or brushing. Upon baking at a temperature of about 350° F. for 20 to 30 min., the materials set and take on a rubber-like appearance. The cured compounds resist acids, alkalies, salt solutions, oils, gasoline, greases, industrial oxidants, and a number of other types of chemicals and products normally corrosive to rubber. Coatings from 0.003 to 0.25 in. may be obtained with a single application. Because of the excellent resistance to corrosive

Taking no chances with temperature changes

TO prevent precision machinery from being thrown out of adjustment, many mills have installed air-conditioning equipment. And to help this equipment keep temperatures within close tolerances—and to lessen the load on that equipment—PC Glass Blocks have been used to great advantage. That's because PC Glass Blocks have inherent insulating properties which protect against variations in temperature and humidity and guard against excessive heat loss through daylighting areas.

But PC Glass Blocks have other advantages: In many cases, areas near ordinary windows are not usable for precision work because of frequent outdoor temperature changes. PC Glass Blocks insulate these areas, making more work space available. Moreover, PC Glass Blocks—in *functional* patterns—admit an ample supply of diffused, natural daylight over sections far removed from lighting panels. This makes even more usable space available; reduces artificial lighting costs; gives employees greater eye-comfort. PC Glass Blocks prevent the infiltration of harmful dust and grit, too. They provide effective sound insulation. And they cut maintenance costs, since they require no replacement, repairs or painting.

It is easy to see why users report that PC Glass Block installations pay for themselves out of the savings they make possible. Why not find out what PC Glass Blocks can do in your mill? Our specialists will be glad to help you work out your problems without any obligation on your part. While you're thinking about it, we suggest you fill in and return the coupon for our free booklet.



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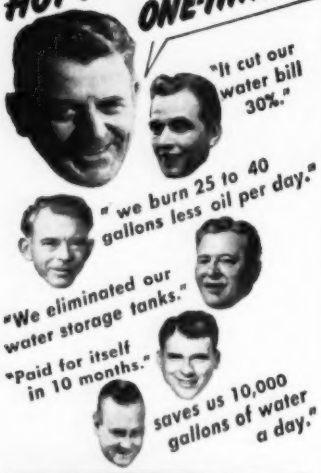
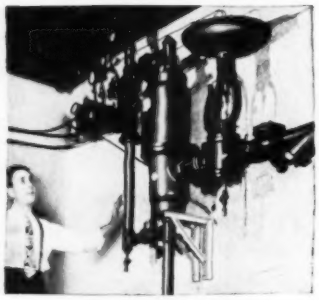

"It cut our water bill 30%."
"we burn 25 to 40 gallons less oil per day."
"We eliminated our water storage tanks."
"Paid for itself in 10 months."
saves us 10,000 gallons of water a day."



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Book Reviews

German Technology During the War

DEVELOPMENTS IN THE COTTON, RAYON, AND SILK INDUSTRIES IN GERMANY DURING THE PERIOD 1939-1945, B.I.O.S. Over-all Report No. 13; British Cotton Industry Research Assn., Shirley Institute, Didsbury, Manchester, England; paper, 180 pages, 3 shillings; or British Information Services, 30 Rockefeller Plaza, New York 20; $1.

The broad picture of the German wartime textile industry that emerges from this British survey is one of unevenness of technical development, brought on mainly by the inconsistency of political interference coupled with a frenzied seeking for self-sufficiency. The authors have done a good job appraising the industry during the war years in the face of the postwar physical handicaps of industrial destruction and political zoning.

In Germany, textiles were confined almost exclusively to small units. Spinning mills ran from 5,000 to 200,000 spindles. Weaving mills usually had from 60 to 70 looms up to 1,000, where the looms were housed in two or three separate sheds. Integrated mills did exist, but they operated through small units often scattered widely and managed independently. The labor force was docile, large, and poorly paid. Technicians, however, aimed at high machine-unit output, as was shown by evidence of many types of recording devices and kinks and short cuts on the machines themselves.

The main direction of research was toward overcoming naturally hard water; circumventing the shortage of natural fats for soap making; and trying to make rayon behave like natural fibers through control of swelling, increasing wet strength, and increasing resistance to creasing and abrasion.

References are given to readers for further study in each of the phases discussed by the survey. An appendix and a complete list of all mills visited are given, with listing of the reports in which the mills are described in detail. In short, this bird's-eye-view booklet is an excellent starting-point for those who want to know where to turn for a quick look at, or obtain direction for more particularized information on, war-time German technology.

Warp Sizing In a Nut-Shell

A HANDBOOK ON COTTON WARP SIZING, 2nd edition, by Houghton Textile Research Staff; E. F. Houghton & Co., 303 West Lehigh Ave., Philadelphia 33, Pa.; cloth, 160 pages, no charge to mill executives or department heads, $1 to others.

This handy manual is a revision of information brought out on warp sizing by the Houghton Co. eleven years ago. An introductory chapter describes types of cotton and their processing prior to warp sizing. Then follow various types of warp-sizing information: the purpose and the mechanics of the process; starches, gums, resins, penetrants, preservatives, and softeners; automatic controls on slashers; and common sizing problems and their remedies. A chapter on synthetic warp sizing, conversion data, and a reference index round out the information given.

Quartermaster-Corps Contracts Made Easy

HOW TO DO BUSINESS WITH THE QUARTERMASTER CORPS, by the Dept. of the Army; N. Y. Quartermaster Purchasing Office, 111 East 16th St., New York, N. Y.; paper, 16 pages, no charge.

This pamphlet is designed as a guide to smaller manufacturers and regular cloth dealers interested in selling to the Quartermaster Corps. Items presently purchased by the Corps are listed; and how a prospective supplier can, without intermediaries, participate in the purchasing program is described. Suggestions are given to bidders on the bidding procedure to follow. Rewarding of contracts is described, as well as method of payment upon completion of deliveries.

Other Books Of Interest

1949 TECHNICAL MANUAL AND YEAR BOOK, American Assn. of Textile Chemists & Colorists, Vol. XXV.; Howes Publishing Co., 1 Madison Ave., New York; cloth, 486 pages.

Organization, committee reports, test methods, dyestuffs and chemical specialties, individual memberships, and an index by subject make up this latest annual report on the activities of the AATCC.

TEXTILE RECORDER, BOOK OF THE YEAR, 1948-1949; Harlequin Press Co. Ltd., South King St., Manchester, England; 224 pages, 21 shillings.

A review of the past twelve months in British textiles is given in this record of the nation's efforts to modernize its industrial plant and methods. Other subjects include textile finance, research, education, and labor. There are 20 pages of British textile statistics.

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BUT THIS IS EASY

AND THIS IS MIGHTY WONDERFUL

SURE, you believe in saving.
But it's mighty hard to make yourself take cash out of your pocket, and time out of your day, to do it regularly.

The sure way, the *easy* way to do your saving is to get started on an *automatic* savings plan with U. S. Savings Bonds. Like this . . .

1. **If you're on a payroll,** sign up in the Payroll Savings Plan, then forget it. From then on the money saves itself—so much per week, or so much per month.

2. **If you're not on a payroll,** sign up at your bank for the Bond-A-Month Plan. Equally easy. You decide how much you want to put into bonds every month, your bank does the rest.

In just ten years after you start buying bonds, your money starts coming back to you—well-fattened! Every $3 you invest today brings you back $4 to make possible all the wonderful things you dream of doing.

And remember—any time you need your money for emergencies, you can get it back in minutes, without losing interest.

Automatic saving is sure saving—U.S. Savings Bonds

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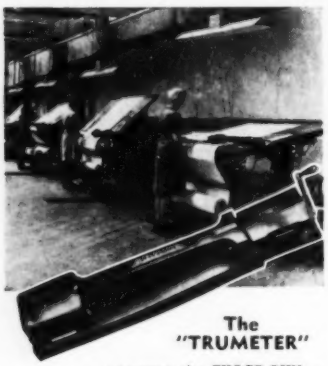
The
BAKER'S DOZEN

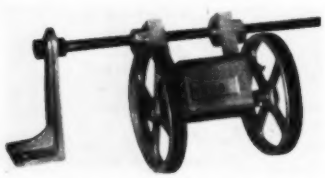
One extra for luck—that pleasant old practice has no place in modern commerce. Yet many mills are still giving away costly production due *to inaccurate measurements.*

The "TRUMETER" banishes this drain on profits, short measure complaints and illegible handwritten records.



The "TRUMETER"

measures the EXACT RUN,—No More—No Less—at any point and delivers a PRINTED VOUCHER of ACCURATE YARDAGE. The "TRUMETER" can be fitted to almost any existing inspection, winding and folding machine, etc. or to a table. Special models for woolens, carpets and pile fabrics.



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With two 18" heavy rubber covered or knurled aluminum wheels, adjustable stand and 18" long rod fitted to an ingenious bracket. Counter can be moved along the rod into desired position and also tilted out of action. Instantaneous reset lever action, double bearings and many other features.

We carry a complete line of revolution, stroke, pick and pre-determined counters. Measuring and printing counters in yards, feet or meters or to your own specifications.

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"TRUMETER"

TRUMETER COMPANY
1265 Broadway New York 1, N. Y.

News of the month

Automatic Picker Doffing. Automatic doffing of pickers and automatic loading of Whitin-Schweiter filling winders are being developed, according to Robert J. McConnell, vice president of Whitin Machine Works, who spoke before the National Association of Cotton Manufacturers at its annual meeting. He also revealed details of a new Bi-coil drawing frame with a 14-in. can, electronic stop motion, and rolls that can be spread to take 2-in. staple. Powdered-metal spinning rings are being evaluated, he said, but "it is too early . . . to determine if they will be successful." At the same meeting, R. W. Logan, of Charles T. Main, Inc., spoke on behalf of more liberal tax allowances on depreciation. D. H. Agnew, of the Federal Reserve of Boston, enumerated the specific things that textile manufacturers in New England liked and disliked about the area. Dr. J. B. Quig, E. I. DuPont de Nemours and Co., Inc., stressed the need for more synthetic fibers, saying, "the textile industry is starved for fibers." He also warned of the common confusion in comparing cotton staple with synthetics, which are made in both staple and continuous-filament form.

Tests on Ancient Cloth. Tests to determine changes in molecular weight and degree of polymerization of 3,000-year-old cotton cellulose through processing or aging are being made at Textile Research Institute, Princeton, N. J. The cottons being tested, among the oldest yet discovered on the American continent, are part of those recently unwrapped from a Peruvian mummy brought intact to the N. Y. Museum of Natural History. Nearly two-thirds of the cotton yardage is still in good condition and retains tensile strength, according to preliminary reports. One length measured 11x87 ft., and there are ten pieces 9x16 ft. For the most part, the cloth is of plain weave and undyed.

Mildewproofing Advances. There are three ways in which the life cycle of

TEXTILE CALENDAR

AATCC, Northern New England Sect., Lowell Textile Institute, Lowell, Mass., Nov. 4, 1949.

AATCC, Piedmont Sect., Charlotte Hotel, Charlotte, N. C., Nov. 5, 1949.

Southeastern Industrial Vision Congress, Georgia Institute of Technology, Atlanta, Ga., Nov. 6 to 8, 1949.

American Management Assn., Production Conference, Palmer House Hotel, Chicago, Ill., Nov. 10 and 11, 1949.

AATCC, Philadelphia Sect., Kugler's Philadelphia, Pa., Nov. 11, 1949.

Fourth Mid-West Quality Control Conference, Hotel Jefferson, St. Louis, Mo., Nov. 11 and 12, 1949.

National Heavy Outerwear Assn. Convention, Waldorf-Astoria Hotel, New York, Nov. 14 to 16, 1949.

22nd Exposition of Chemical Industries, Grand Central Palace, New York, Nov. 20 to Dec. 3, 1949.

Textile Research Institute, annual meeting, Waldorf-Astoria Hotel, New York, Dec. 1 and 2, 1949. Open House, Princeton, N. J., Dec. 3, 1949.

Plant Maintenance Show, Auditorium, Cleveland, Ohio, Jan. 16 to 19, 1950.

Southwest Air-Conditioning Exposition, State Fair Park, Dallas, Texas, Jan. 23 to 27, 1950.

National Cotton Council, annual meeting, Memphis, Tenn., Jan. 27 to 29, 1950.

ACMA, annual convention, Biltmore Hotel, Palm Beach, Fla., March 30 to April 1, 1950.

Carpet Institute, Carpet Fashion Opening, New York, April 17 to 27, 1950.

Knitting & Allied Crafts Exposition, sponsored by Underwear Institute and National Knitted Outerwear Assn., 71st Regiment Armory, New York, April 24 to 28, 1950.

National Assn. of Hosiery Mfrs., annual meeting, Claridge Hotel, Atlantic City, N. J., May 1, 1950.

American Textile Machinery Exhibition (and Allied Industries) sponsored by National Association of Textile Machinery Manufacturers, Atlantic City Auditorium, Atlantic City, N. J., May 8 to 12, 1950.

British Industries Fair, Earls Court, London, England, May 8 to 19, 1950.

Cotton Manufacturers Assn. of South Carolina, annual meeting, Fort Sumter Hotel, Charleston, S. C., May 11 to 13, 1950.

National Materials Handling Exposition, International Amphitheatre, Chicago, Ill., June 12 to 16, 1950.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 2 to 7, 1950.

American Association of Textile Chemists & Colorists, annual meeting, Hotel Statler, Boston, Mass., Oct. 19 to 21, 1950.

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THREAD GUIDES
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Our vitirified enamel guides are produced by fusing melted glass on metal, and should not be confused with paint, baking enamels or celluloid preparations. They are strictly glass smooth; are immune to moisture, acid, etc., and withstand enormous heat.

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A NEW HIGH IN CLOTH GUIDING!

Mount Hope PRECISION GUIDER

This brand new Precision Cloth Guider makes it possible to automatically control the lateral movement of cloth, within closer limits, than ever before possible.

This precision control is made possible by an entirely new principle in cloth guiding, — a fluted selvage wheel which is contacted and turned by the selvage. The wheel actuates a rack which, in turn, actuates the tilting of nip rolls to guide the cloth toward or away from themselves as required. The result is practically instantaneous reaction and safest handling of goods, even the most delicate.

The Guider is purely mechanical; no coils to burn out or air valves to clog. It has wide adaptability, is rust proof, water proof, and has reversible Neoprene rolls.

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FIRE-FIGHTING
in your plant!

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"WETTER WATER"
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ANYWHERE!...

The "Fire Hozzer" now makes it possible for your plant, at lower cost, to have the modern protection of "WETTER WATER." The "Fire Hozzer" operates on your regular water pressure, adds a patented chemical that makes water PENETRATE. Knocks out fires 2 to 3 times faster than plain water—and with astonishingly LITTLE WATER, thereby reducing water damage, too. Can be recharged without shutting off the water.

WRITE TODAY
FOR COMPLETE DETAILS
—protect your plant better
at lower cost.

ACCURATE Tool Co.
15 MANUFACTURERS PLACE
NEWARK N.J.

microorganisms feeding on cotton cellulose in fabrics can be broken, according to Dr. Ralph G. H. Siu, research director of the General Laboratories, Philadelphia Quartermaster Depot. (1) *By fungicides.* More than 1,000 have been tested, of which compounds those using copper-8-quinolinolate have been particularly effective. Drawbacks of many fungicides are leaching out by rain, destructive effect of sunlight, toxicity to human beings, interference with other treatments, and cost. (2) *By resin treatments.* Urea formaldehyde is particularly effective, although for the most part the treatment adds 5 to 15% to the fabric weight and gives it a boardy hand. Such treatments are fairly permanent and non-toxic, however. (3) *By chemical alteration of thin surface layers of the fiber.* This topochemical method in one treatment can make the fabric resistant to light, water, and fire, as well as to mildew. Limited commercial production is based on acetylation and the urea-phosphate treatment. Further research is being carried out from this topochemical approach.

New Palm Beach Fabric. A new cloth, made of yarns consisting of rough Angora mohair fibers used as a core, around which rayon or nylon is wrapped, has been brought out by the Palm Beach Co. after ten years of experimentation by Goodall-Sanford laboratories. For ease of manufacture, and to minimize wrinkling in the finished fabric, the new "Fiberlok" process is carried out on the worsted system.

Fibril Characteristics Studied. Cellulose almost invariably breaks down into fibrils, regardless of how degradation is brought about: whether by chemical agents such as acids and alkalies, by physical treatments such as grinding and vibration with high-frequency sound waves, or by the action of biological organisms such as molds and bacteria. Fibrils are so narrow that they can be observed only at the high magnifications obtainable with the electron microscope. It would take 2,000,000 of them, lying side by side, to extend an inch. They are relatively dense and impart to the fibers such properties as stiffness and tenacity. They are poorly reactive toward chemical reagents. Dissimilarities in fibrillar patterns influence the properties of the fibers. The above, and other knowledge of the basic structure of fibrous materials, should be helpful in commercial applications, said Dr. Charles W. Hock, Hercules Powder Co., in a paper presented at the recent American Chemical Society national meeting.

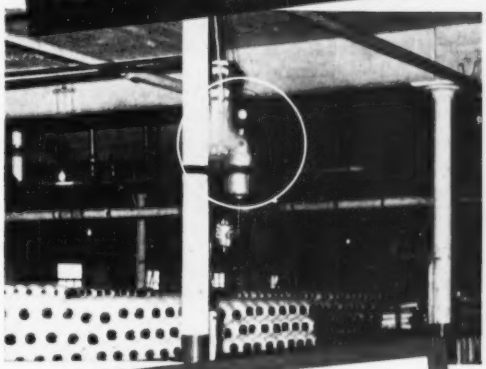
Good Cotton-Nylon Combination. Because of substantial savings in operating and maintenance costs, nylon in combination with cotton is fast becoming a favored material for construction of heavy-duty conveyor belts used in several basic industries. Nylon is used as filling in the conveyor-belt fabric, while cotton remains the best textile fiber for the longitudinal ends, according to Ernest G. Brown, U. S. Rubber Co. mechanical-goods division. Use of nylon in combination with cotton gives a greater number of plies, which in turn increases the over-all belt strength by as much as 250%. At the same time, nylon gives the thick belt far greater flexibility. Copper, iron ore, and coal mines are among the users of the new belt.

Dye Resistance From Formaldehyde. Direct-dye-resisting cotton yarns of possible technological interest have been produced by partially methylenated cottons prepared by reaction with formaldehyde under acid conditions in nonaqueous (mainly acetone) solutions. This phenomenon was discussed at the American Chemical Society meeting recently in a paper by Charles F. Goldthwait, Southern Regional Research Laboratory, New Orleans, La. The dye-resisting effect was explained as due to cross bonding, which reduces the swelling of cotton in water and in other agents which swell or dissolve cotton. Yarns of the higher formaldehyde content have good resistance to biological rotting. Maintenance of normal breaking strength of the cotton is difficult, but the strength can be maintained under some conditions.

New Fields to Conquer. An asphalt-impregnated cotton lining to prevent water seepage is being used in the building of the Baldwin Hills Reservoir in California, according to the National Cotton Council. A specially constructed 60-in. cotton sheeting was selected, following extensive tests on impregnability, strength, and deterioration-resistance. It is believed the new impregnated-fabric use will help cut down on some of the 50% of the water lost in the ground during irrigation transit to users, and part of the additional 25% lost during farm distribution. The market is seen as running into the millions of yards if cost data should reveal the fabric use as economically feasible.

Builder Motion Attachment. A roving-frame stop-motion mechanism

Steam is Best for Humidification!



1 IT IS CHEAPER to evaporate water for humidification in your steam boiler than by any other means.
2 STEAM is a gas and easily dispersed through the space to be humidified.
3 STEAM is clean, leaving no residue to settle out of the air.
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5 STEAM does not reduce the temperature of the air being humidified; neither does it raise temperature appreciably.

ARMSTRONG Steam humidifiers solve cold weather dry air problems in textile mills by automatically and accurately adding moisture to the atmosphere to maintain any desired relative humidity. They eliminate the difficulties and delays occasioned by moisture loss from textile fibres, allay dust, eliminate static and help prevent fires.

Armstrong Humidifiers are readily installed, much like unit heaters. The smallest unit (capable of humidifying up to 40,000 cu. ft.) lists for only $120.00 complete, will operate for a few pennies a day.

Write for NEW 12-PAGE BULLETIN giving complete data on operation, selection and installation of Armstrong Steam Humidifiers.

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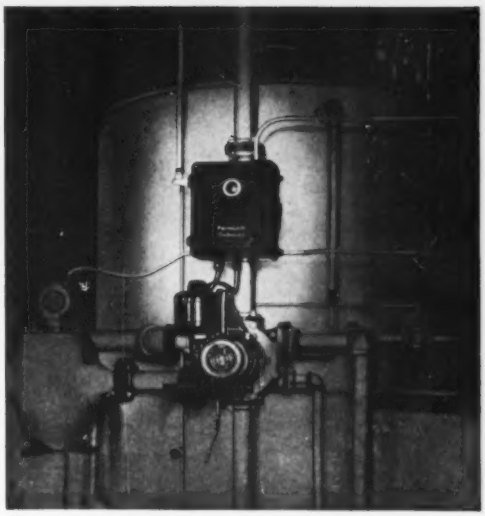
ARMSTRONG *Steam* HUMIDIFIERS

Easy to Install and Maintain . . . Automatic . . . Economical

SAVE TIME LABOR MONEY



with the Permutit® Automatic

GIVES ZERO WATER CONSTANTLY!

The Permutit Automatic Water Softener gives a constant supply of pure, quality-controlled process water. Good water safeguards fabric quality—saves you money by eliminating the possibility of spotty dye lots or chemical reactions that ruin the finish of your fabrics. And automatic regeneration, made possible by Permutit's Multiport Valve Control, saves many costly hours of labor and attention!

YOUR PRESENT SOFTENER CAN BE EASILY CONVERTED TO AUTOMATIC CONTROLS!

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The BEST Way to Dye ACETATE YARNS

Fast and brilliant colors

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Dyers and Converters of Synthetic Yarns for All Industries

Plant at Providence 1, Rhode Island

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Empire State Bldg., 5th Ave., New York 1

★

which works automatically in the event that the builder motion does not reverse itself properly has been patented by Johnny J. Seawright, Joanna, S. C. The mechanism was worked out to circumvent damage to the frame and the roving in process in cases where lint or other foreign matter may interrupt the normal up-and-down movement of the builder motion.

Degradation under Heat. During the heating of cellulose, the degree of degradation, the chemical reactions, and the physical changes brought about depend on the amount of air and moisture present, according to W. E. Roseveare, E. I. du Pont de Nemours & Co., Inc., in a paper delivered at the American Chemical Society national meeting in Atlantic City, N. J. Either air or moisture accelerates the degradation, but the simultaneous presence of both air and moisture increases degradation much more than air and moisture do separately. Rayon cords lose strength faster than cotton in the presence of air and moisture; but in a vacuum, cotton cord loses strength faster than rayon.

Permanent Exhibit. A complete model built to scale, of No. 5 Finishing Plant at Dan River Mills, Inc., Schoolfield, Va., has been set up in the Smithsonian Institute in Washington, D. C. The exhibit, approximately 8x10 ft. in size, is the result of nine months' detailed work by Gary Johnson and Sam Scott, mill employees; and of Mrs. C. J. Schollenberger, wife of the training-department head, who made the figurines to scale and to look as much as possible like the individual operators who actually tend the various frames and ranges.

Foreman Responsibilities. Loyalty to his company and the ability to transmit it to the people under him by selling them on the company and its products is one of the important qualifications of a foreman, according to Thomas O. Moore, vice president, P. H. Hanes Knitting Co., Winston-Salem, N. C. And to be able to transmit this loyalty, the foreman must have an understanding of the policies and the present and future plans of the firm. Management's responsibility is to see that the foreman has this understanding, and to see that he is continually given information on why things are being done. This answer of Mr. Moore to the foreman question was given in a talk at the recent Southern Hosiery Mfrs. Assn. meeting in Roanoke, Va.

Textile Machinery Through ERP. Many millions of dollars will be utilized under the Marshall Plan to buy American textile production equipment for shipment to Europe, including about $46,000,000 for cotton-type mills and about $10,000,000 for machinery for processing wool, flax, hard fibers, and for knitting, braiding, and industrial sewing. The spindles covered in the ECA business permit replacement of European spindles at the rate of less than one-half of 1% annually. The rate may be built up to 1% by spindles from other sources. Rate of replacement in the U. S. is generally figured to average 5%.

Machinery Research in England. A new £50,000 textile-machinery-research organization, claimed to be in advance of anything similar in any country competing with Britain in textile-machinery development, was opened in Helmshore, Lancashire, England, recently. Known as T. M. M. (Research) Ltd., it is to be staffed by 125 technicians and will operate on an annual budget of approximately £100,000. The two objectives of the organization will be to bring a fresh approach to spinning and drafting processes with a view to the evolution of new principles and machinery, and to serve as a link between the development departments maintained by each of the operating companies in the Textile Machinery Makers Ltd. group. First results of the new group's work were shown at the Manchester Exposition last month in the new high-draft roving frame, the M. S. 2.

Winning the American Market. British fabric producers will have to bring their over-the-counter prices down more than the 30% windfall given by the pound devaluation and U. S. tariff modifications if they want to hit the American market in sizable volume, American importers said recently. Even with tariff considerations excluded, British cotton yarns and piece goods land here at prices 35% above competitive American yarns and cloths. British woolens and worsteds likewise are priced too high for all but a small segment of the U. S. market. Expansion of these markets for the British is seen in New York as depending on lowered unit cost at the British mill level and guaranteed delivery dates, rather than on further tariff adjustments.

KELLEY RECLAIMERS

...Profit AS WELL AS Heat RECLAIMERS

If you are not making an attempt to reclaim heat in the spent dye liquor, for example, or are doing it with inadequate or antiquated equipment, it may pay you to get in touch with our engineering department.

It's purely a matter of economics . . . of sitting down with one of our representatives and doing a little figuring.

It would not be difficult to determine the reclaimable heat . . . how much it would cost to reclaim it . . . and how much saving there would be by installing the proper type and size Kelley Reclaimer, pit or closed type.

It is well to keep in mind that often it is "profit" . . . perhaps the profit . . . that can be reclaimed along with the heat units.

THE PATTERSON-KELLEY Company, Inc.

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Here are the new SERIES G BEAMS

with Improved Inside Supports and other construction improvements

- additional strength.
- stands stress of yarn better.
- truest running.
- withstands rougher handling.

Expressly designed to run on all new models of high speed warpers.

GK — COTTON

With Improved Cast-iron Inside Supports at ends, and three two-ply wood supports between

GN — NYLON, SYNTHETICS

With five Improved Cast-iron Inside Supports as shown.

Also GR — RAYON, with Improved Cast-iron Inside Supports at ends, and seven two-ply wood supports between.

We have doubled the number of fastenings securing the staves to the supports, with self-tapping screws used at Improved Inside Supports. The barrel remains smoother, and the beam will withstand rough handling with heavy loads and remain true running.

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ALLEN COMPANY

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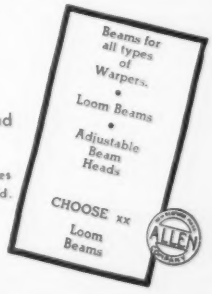
New Bedford, Mass.

Representatives in all Textile Localities and all Principal Countries of the World.



DeCetex 104

TREATED NYLON NOW AVAILABLE

DeCetex 104
the new Dow Corning Silicone water repellent treatment for nylon and acetate rayon fabrics has . . .

DURABILITY . . . greater resistance to laundering and dry cleaning.
QUALITY . . . treated fabrics have soft and smooth hand free from mark-off.
ECONOMY . . . cost is comparable to other high quality water repellent treatments.

DeCetex 104 promises to become the preferred water repellent treatment for nylon and acetate rainwear and sportswear.

DeCetex 104 is easily applied from water emulsion using conventional textile finishing equipment. No more than 2 to 3% pickup is required. The fabric is then dried and cured. No further processing, washing or neutralizing is necessary. Best results are obtained where at least 300°F. is available for curing.

The following finishers are experienced in applying DeCetex 104:

BRADFORD DYEING ASSOCIATION (U.S.A.)
Westerly, Rhode Island
FAIR LAWN FINISHING COMPANY
Fair Lawn, New Jersey
THE HELLWIG DYEING CORPORATION
Philadelphia, Pennsylvania
HUDSON PIECE DYE WORKS, INC.
Paterson, New Jersey
RICHMOND PIECE DYE WORKS
Richmond, Virginia
WALDRICH COMPANY
Delawanna, New Jersey

For more information about this Dow Corning Silicone, phone our nearest branch office or write for data sheet A-J-11.

DeCetex 104
DOW CORNING CORPORATION
MIDLAND, MICHIGAN
Atlanta • Chicago • Cleveland • Dallas
Los Angeles • New York
In Canada: Fiberglas Canada, Ltd., Toronto
In England: Albright and Wilson, Ltd., London

Dow Corning — FIRST IN SILICONES

NEWS ABOUT Suppliers

Equipment Suppliers

Abbott Machine Co., Wilton, N. H., plans the construction of a new $40,000 plant in Greenville, S. C., to serve as sales and service headquarters for the South. Langdon S. Ligon is manager of the office.

American Blower Corp., Detroit, Mich., is erecting a new manufacturing and assembly plant at San Leandro, Calif. The single masonry and steel building, covering 40,000 sq. ft., will be ready for operations early in the new year.

Briggs-Shaffner Co., Winston-Salem, N. C., has made known the association of Paul H. Johnson with the firm. Mr. Johnson was formerly with Hayes Industries in the Southeastern states.

Brown Instrument Div., Minneapolis-Honeywell Regulator Co., has named John E. MacConville industrial sales manager of the Atlanta, Ga., branch office. Mr. MacConville will also supervise industrial-sales activities out of the company Birmingham, Jacksonville, and Knoxville offices.

Burlington Engineering Co., Inc., Graham, N. C., has made Marler Chemical Co., Cleveland, Ohio, its representative for dyeing equipment in the textile selling field.

Elliott Co., Jeannette, Pa., has acquired the business and assets of the Crocker-Wheeler Div., Joshua Hendy Corp. Ampere, N. J. Crocker-Wheeler, dating back to 1888, is one of the oldest manufacturers of motors and generators.

Graton & Knight Co., Worcester, Mass., has appointed Elliott C. Paddock to the newly created post of vice president in charge of sales. Mr. Paddock was formerly general sales manager at Corbin Screw Div., American Hardware Corp. David I. McCready has joined Graton & Knight sales staff, with headquarters in Pittsburgh, Pa.

Hyster Co., Portland, Ore., has made John Mitchell district manager of truck sales in the Northeast. John Cusick is lift-truck-sales district manager in the Mid-West. Fred Schultz has been named to the equivalent position in the Southeast.

Fabian Bachrach

***MORTON GOODSPEED**, vice president of William Iselin & Co., Inc., since 1943 and director since 1945, has been appointed executive vice president, succeeding the late K. P. Budd.*

E. H. Jacobs, Northern Div., Bullard Clark Co., Danielson, Conn., has named Charles G. Helmold to sell and service the firm's complete line of loom necessities in southern New England. William R. Muller, former service engineer for the territory, will from now on confine his activities to administration and special sales work.

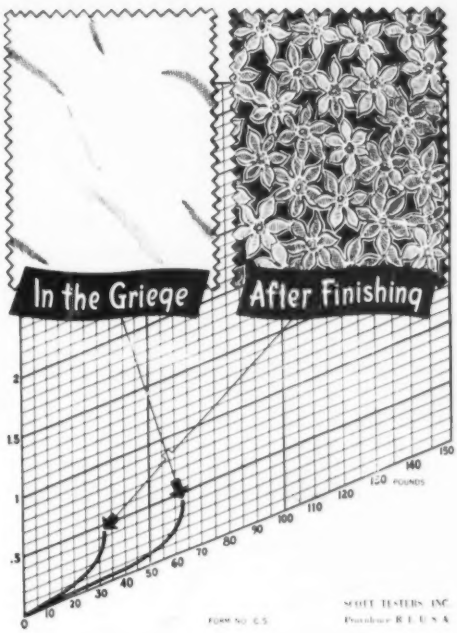
J. C. Paddock Co., Spartanburg, S. C., has appointed Textile Specialty Co., Greensboro, N. C., its exclusive sales representative in North Carolina for the firm's line of mill equipment. Representatives are L. Carroll Atkisson, Clyde Kelly, and "Dick" Salisbury.

Reliance Electric & Engineering Co., Cleveland, Ohio, is establishing headquarters in England for technical services for European users of the company motor drives and related equipment. Clarence J. Marx is the new representative for the European area.

Saco-Lowell Shops, Boston, Mass., has appointed Herman Jones selling agent for the Atlanta, Ga., office, replacing H. M. Walsh, who has been

TESTED IS TRUSTED

Mr. Finisher here's how you can guard against TENDERING



The printed sample has lost about 35% of its tensile strength in finishing

The above "picturized" chart of an actual test on a Model J* Scott Tester, reveals that a high degree of tendering occurred during finishing. You can avoid this, Mr. Finisher. Let comparative testing "before and after" help you arrive at and maintain the finishing routine most compatible to each type of goods. *Trademark.

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SCOTT TESTERS, INC.

95 Blackstone Street • Providence, R. I.

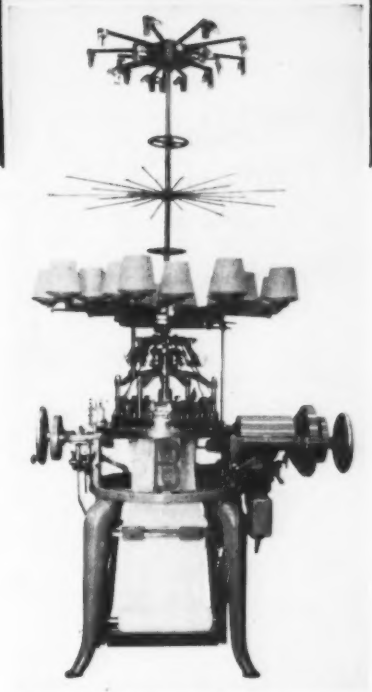
Standard of the World

WESCO STOPMOTIONS

FOR

OUTERWEAR • UNDERWEAR • HOSIERY

STANDARD EQUIPMENT
BRINTON MACHINES



Brinton Type MF-RB Multiple Feed Rib Body Machine, 18 Feed 16 cut automatic

AROUND THE WORLD

"Wesco" Electric Stop-motions are known for the company they keep with justly famous manufacturers of knitting machines.

Greater production, versatility, simplicity of operation are features of "Wesco" as they are features of the machines they serve. When you purchase new machines —*Specify "Wesco" Electric Stop-motions.*

LOOK FOR WESCO
on all these knitting machines:

H. Brinton
Charles Cooper Co.
Crane Manufacturing Co.
Edmos Products Corp.
Fidelity Mach. Co., Inc.
Jacquard Knitting Mach. Co.
Lamb Knitting Mach. Co.
Leighton Machine Co.
Scott & Williams, Inc.
Stafford & Holt, Inc.
Supreme Knitting Mach. Co.
Wildman Mfg. Co.

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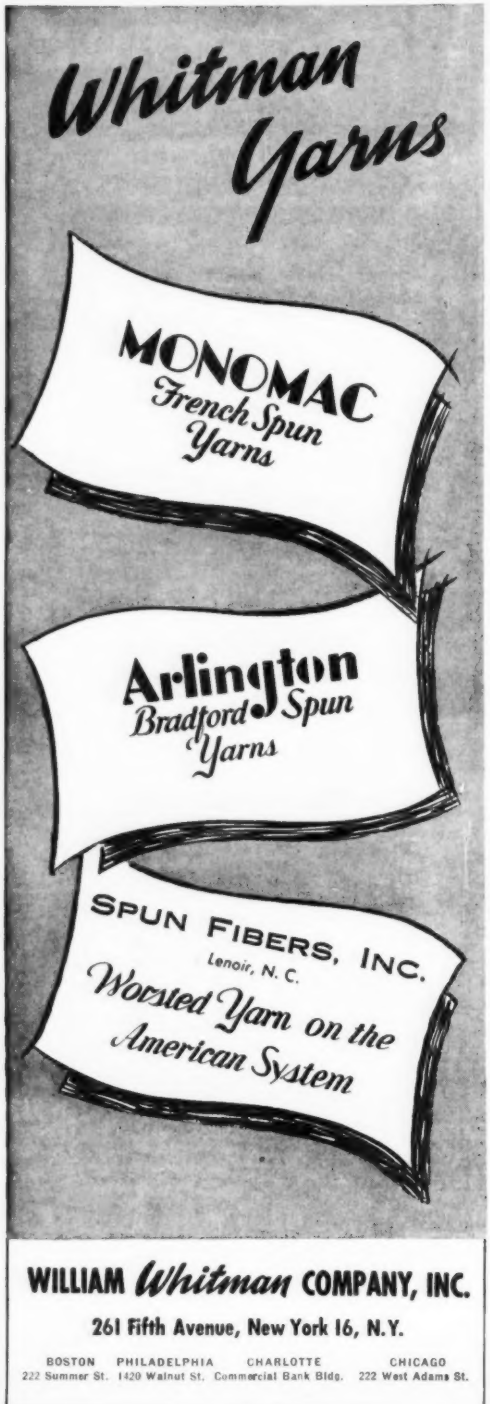
STOP-MOTION DEVICES CORP.

1471-77 Fulton St. Brooklyn 16, N. Y.

One of a series of knitting machine builders. Others to follow.



WILLIAM Whitman COMPANY, INC.

261 Fifth Avenue, New York 16, N.Y.

BOSTON 222 Summer St. PHILADELPHIA 1420 Walnut St. CHARLOTTE Commercial Bank Bldg. CHICAGO 222 West Adams St.

NEWS ABOUT *Suppliers*

EDWARD A. YZEWYN, technical director for Latin America for the past eight years, has been named director of sales for South America by the International Division of Onyx Oil & Chemical Co., Jersey City, N. J.

JOSEPH B. CROWE, since 1935 manager of the textile-research department of Procter & Gamble, Ivorydale, Ohio, has ben named manager of marketing of the firm's processing and finishing products for the textile industry.

transferred to the Charlotte, N. C., office. Mr. Jones will be associated in Atlanta with M. A. Comer.

Sage Equipment Co., Buffalo, N. Y., has appointed Phillip A. Kessler chief engineer of conveyor equipment. He will also supervise production, purchasing, and estimating in the expanding production of the firm's package-conveyor line.

Southern Wood Specialty Co., Charlotte, N. C., has been formed with capital stock of $8,000 to manufacture textile woods. John Foster, Charlotte; and Lester Fester and Clarence Evers, Davenport, Iowa, are listed as incorporators.

Tri-Homo Corp., Salem, Mass., has named Oscar B. Graichen head of the textile division. He will make his headquarters in Providence, R. I.

Union Special Machine Co., Chicago, Ill., will display some of its machines at the first National Conference of Clothing Factory Managers and Foremen, to be held at the Bellevue-Stratford Hotel, Philadelphia, Pa., Nov. 14 to 16. Machines to be shown are models 9900 AS, 39200 J, 61300 LA, 61300 JA, and 51300 Z.

Universal Winding Co., Providence, R. I., has made known the resignation of Charles E. Mason, Jr., assistant treasurer. He has become vice president in charge of textile-roll division at Ellis Allen Co., Wakefield, Mass.

Westinghouse Electric Corp., Pittsburgh, Pa., has made W. C. Rowland manager of manufacturing and repair division, succeeding vice president H. F. Boe, retiring. The division provides facilities for servicing in 38 plants, in addition to the major manufacturing divisions.

Willcox & Gibbs Sewing Machine Co., Nyack, N. Y., recently opened a new $750,000 45,000-sq. ft. one-floor building across the street from the plant occupied since 1935. The new facilities are expandable, and will be used to produce the Superlock overseamer and the Metropolitan machines.

Wright Hoist Div., American Chain & Cable Co., Inc., Bridgeport, Conn., has appointed S. J. Woodworth sales manager, with headquarters at York, Pa. He succeeds A. R. Haskins, resigned.

Chemical and Yarn Suppliers

American Cyanamid Co., New York, has named Dr. L. P. Moore, former European technical representative, manager of new-products development. He will be succeeded in his European position by Dr. E. W. Cook, former assistant chemical director of the firm.

Arnold, Hoffman & Co., Inc., Providence, R. I., has appointed Walter A. Spencer Mid-Western sales represent-

EFFICIENT *Cost-Saving* PLANT OPERATION STARTS *Here*

THE MODERN

Powermaster STEAM GENERATOR

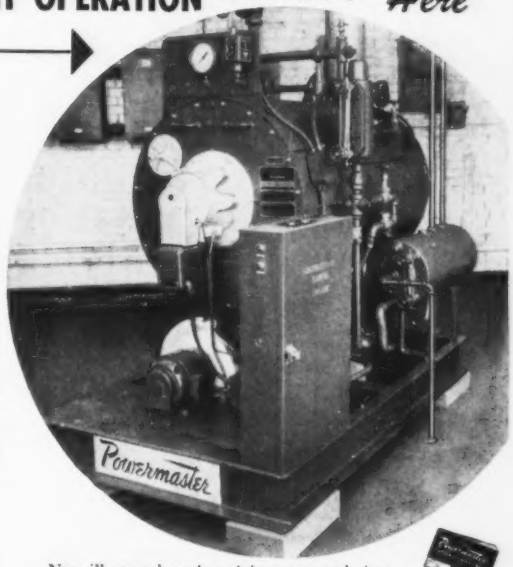
will lower your processing, heating and power costs!

Even though your plant equipment and methods are as up-to-date as you can make them, you cannot hope to get top efficiency and economy in operation unless you start with the "heart" of your plant—your boiler.

The automatic O&S "Powermaster" Steam Generator will help you lower costs right from the start. This modern "packaged" unit—delivered with boiler, burner, controls and feed water system built into a complete steam plant—will save you money and labor time in many ways.

It operates at peak efficiency at every point of its range of operation. It produces the right amount of steam needed for varying demands—just as much or as little as you need—when needed!

ORR & SEMBOWER Powermaster® STEAM GENERATORS



New illustrated catalog giving types and sizes available, dimensions, weights, firing data, etc., will be mailed to you on request. Address:

ORR & SEMBOWER, INC., 970 MORGANTOWN RD., READING, PA.

11,900,000 FEET OF *HOLT* MAPLE FLOORING!

HAVE GONE INTO TEXTILE MILLS THROUGHOUT THE COUNTRY SINCE 1920—WITH COMPLETE SATISFACTION TO THE MILL OPERATORS.

When you think of floors, remember to specify Holt Flooring, made from Northern Wisconsin-Michigan Hard Maple.

HOLT HARDWOOD COMPANY., OCONTO, WISCONSIN

You're in line for

ECONOMICAL UNIFORM BLEACHING

when you bleach with

SOLVAY

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LIQUID CHLORINE

No bleaching agent gives quality results at less cost than SOLVAY Liquid Chlorine. Dependable uniformity, purity, controlled quality—SOLVAY Liquid Chlorine gives you all these features... and money-saving economy, too! No wonder leaders in the textile field use this reliable bleaching agent. Why not you, too?

Write for SOLVAY Technical and Engineering Service Bulletins:
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ALLIED CHEMICAL & DYE CORPORATION

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NEWS ABOUT *Suppliers*

ative, working out of Cincinnati. He will service Ohio, Michigan, Kentucky, Indiana, and Illinois.

Atlas Mineral Products Co., Mertztown, Pa., has promoted A. Myles Younger to vice president in charge of sales. Former general sales manager, he has been with the firm ten years.

E. F. Drew & Co. Ltd. plans to establish a plant in São Paulo, Brazil, to manufacture textile chemicals, according to a bulletin of the American Chamber of Commerce, Rio de Janiero.

E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., in "Armalon" truck upholstery has developed an ethylenic-plastic-coated fabric, without plasticizer and without antioxidants, which is said not to stiffen with age. Construction has started on an 111x177-ft. addition to the weaving laboratory at the rayon department in Newport, Del. J. A. Beder & Co., Inc., Wilmington, has the construction contract. Cost is reported about $175,000, with equipment. Contract for roofing of new Orlon plant, Camden, S. C., from now on to be known as the Benjamin M. May Plant, has been awarded to Earl Delav & Co., Columbia, S. C. At Nylon Div., Seaford, Del., an addition will be built which will require about 300 tons of structural steel framing. Douglas C. Newman has been made assistant director of sales of the dyestuffs division of the organic-chemicals department, with headquarters in Wilmington. The ammonia and plastics departments have been combined into the polychemicals department.

Glass Fibers, Inc., Waterville, Ohio, has been awarded a contract for over 30-million sq. ft. of underground wrap, to be used in the 857-mile crude-oil pipeline to run from Longview, Texas, to Lima, Ohio. The pipe wrap, known as "Vitron," interlaces glass yarn with regular glass filaments, and reinforces the tar coating.

Graver Water Conditioning Co., New York, has been established as a division of Graver Tank & Mfg. Co., Inc. It now has larger quarters at 216 West 14th St., and includes a chemical laboratory and pilot plant as well as sales and engineering offices.

WILLIAM H. CURTISS, JR., former administrative assistant to the president, has been appointed advertising and merchandising manager, Textile Products Div., Owens-Corning Fiberglas Corp. His headquarters will be in New York.

Hooker Electrochemical Co., Niagara Falls, N. Y., has named David Coleman to its sales-development department. He will handle technical correspondence for all Hooker chemicals. He has been in both fine-chemicals production and with the process study group.

Interchemical Corp., Fair Lawn, N. J., has transferred Dr. Zeno W. Wicks from the finishes division to the textile-colors division. He will carry out special research and development projects on pigmented emulsions for textile applications. He has been with Interchemical since 1944.

National Starch Products, Inc., New York, has changed the name of its Canadian affiliate from Meredith, Simmons to National Adhesives (Canada) Ltd.

Owens-Corning Fiberglas Corp., Toledo, Ohio, has made M. T. Nemeyer manager of coated-fabrics sales. He will be located in New York. Since 1947, he has been administrative assistant to the textile-products-division manager.

The Texas Co., New York, has renewed a graduate fellowship in textile engineering at Georgia Institute of Technology, Atlanta, Ga. The fellowship permits continued investigations in the field of textile lubrications. It will be carried on under Dr. F. L. Sweigert, Dean, Division of Graduate Studies.

Introducing...

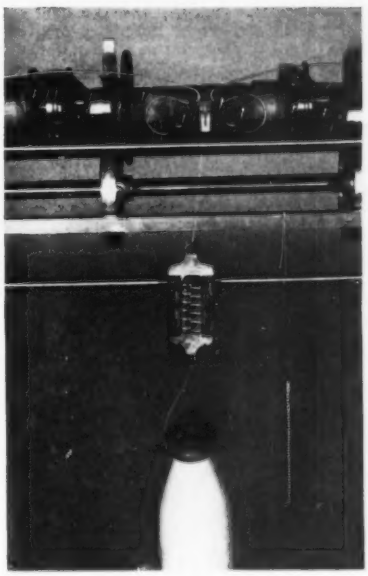
A REALLY NEW AND IMPROVED SWEEPSTICK

The HEIM *"Unibal" Sweepstick*

The Heim Company developed for the U. S. armed services during the war, a self-aligning spherical bearing with just one large ball rotating within a race, and bored so that the shaft passes through its center. This "Unibal" bearing has been built into a sweepstick, and the results obtained in softer and smoother pick action are most gratifying. The body of the new Heim "Unibal" Sweepstick is resilient, rubber-bonded fabric which absorbs shocks, and in combination with the "Unibal" bearing makes a truly smooth-operating sweepstick.

Order just one pair, install them on just one loom, and keep your own records of "down time" and production losses as compared with other looms not equipped with this remarkable sweepstick. This is the best way we know of to prove that the Heim "Unibal" Sweepstick will improve your operation and actually pay for itself in extra yardage because of uninterrupted production.

THE HEIM COMPANY • FAIRFIELD, CONNECTICUT



Sipp-Eastwood "Featherlight" Washboard Light Tension Device

SOLVE YOUR NYLON TENSION PROBLEM

Sipp-Eastwood "Featherlight" Washboard Light Tension Device

Everyone knows that nylon can exert terrific pressure when put under too much tension. Crushed bobbins alone are one evidence of that.

Here's a tension device that is light, delicate. Many mills report a sharp reduction in the excessive tensions that are so destructive of sound bobbins and so conducive of "seconds."

The Sipp-Eastwood "Featherlight" Washboard Light Tension Device will go a long way toward solving your tension problem.

Write for full details and specifications.

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47 KEEN STREET **PATERSON, NEW JERSEY**

Domestic Agents:

S. Fred Toll
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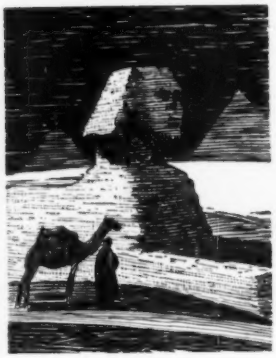
J. S. Fallow & Co.
New Bedford, Mass.

Time Tested



For 56 years Heineman has been a successful processor of silk, nylon and rayon yarns for the hosiery and knitting trades.

Time has tested our reputation for workmanship and reliability.

Heineman Hosiery for Ladies
SINCE 1893

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Division of Aetna Industrial Corporation

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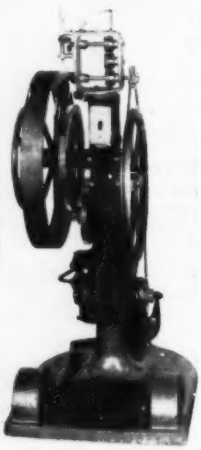
"Standard" PIECE END SEWING MACHINE



Our Standard Portable, Rotary Piece End Sewing Machine is either foot powered or motor driven.

Used extensively in Cotton and Woolen Mills, Bleacheries, Print Works and other allied Textile Plants.

Compact — rugged construction — movable, so as to serve many machines throughout the mill.

Will sew any width or weight of goods, wet or dry.

For best results — use the right machine for your individual work. Contact our nearest Office for further information and descriptive folder.

Write for our illustrated, 80 page, Textile Equipment Catalog.

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STANDARD MILL SUPPLY

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NEW YORK, N. Y., 6708 Empire State Bldg.

CHARLOTTE, N. C., 513 So. Tryon Street

NEWS ABOUT *Suppliers*

Virginia-Carolina Chemical Corp., Richmond, Va., board of directors has named Joseph A. Howell president to succeed the late A. Lynn Ivey. He had been vice president and director of the firm since 1944. Leon Charles Lis is the new production manager of the Fiber Division, in charge of operations at the Taftville, Conn., plant. Mr. Lis is a former company consultant, a native of Belgium. John R. Magee, Jr., is in charge of chemical operations; and Edwin H. Hartranft is textile superintendent and plant engineer. John K. Karrh has been named manager of the fiber-division sales department.

Virginia Smelting Co., West Norfolk, Va., has appointed Dr. Mearl A. Kise director of research and development in chemical manufactures for the firm. His former work includes patents relating to shrink-proofing of wool, resinous coatings, and synthesis of detergents.

Other Services

Engineered Temperature, Inc., Atlanta, Ga., has been formed by Charles A. Miller, former air-conditioning engineer of J. E. Sirrine Co., Greenville, S. C. The new firm, with offices at 1123 West Peachtree St., will operate as mechanical contractors in the textile and industrial air-conditioning field. Associated with Mr. Miller in the new enterprise is John T. Mason, also formerly with the Sirrine organization.

Old Slater Mill Associates, of which Albert S. Noelte, Priscilla Braid Co., Central Falls, R. I., is president, is looking for old textile machinery to set up in the old Samuel Slater Mill, which was built in 1793 on the banks of the Blackstone River, Pawtucket, R. I., and is still standing. The group plans to make of the first American cotton mill a permanent public museum devoted to exhibits of early textile machinery. One spinning frame and one twister, dating from the 1820's, have already been secured, as well as a few later nineteenth-century machines. None of Samuel Slater's original handmade wooden machines remain in the mill.

WILLIAM GALEY has been appointed sales manager of Northern Div., Aberfoyle Mfg. Co., Philadelphia, Pa. He has been assistant sales manager of the division since 1946. Before the war, he sold in the Chicago area.

Harry E. Stocker Associates, Inc., New York, has opened an office in Greenville, S. C. R. H. Blasdale and E. B. White will have headquarters in Greenville, while H. E. Stocker and other associates plan to make Southern trips every two weeks.

NEWS ABOUT *Mills*

Cotton-Mill News

Alabama Mills, Inc., Birmingham, Ala., has spent nearly $750,000 in past year for addition to manufacturing facilities and for improvements. Plant added total of 8,146 spinning spindles, 1,200 twister spindles, and 190 looms. Many looms were converted from cam to dobby type.

Asheville Fabric Mill, formerly operated as Asheville Cotton Mills, Asheville, N. C., was recently made part of Cone Mills Corp., Greensboro, N. C. Plant was converted to manu-

NEW

WIDELY ACCLAIMED and PROVEN

MODEL "G" WARPER

More Production and Better Quality!

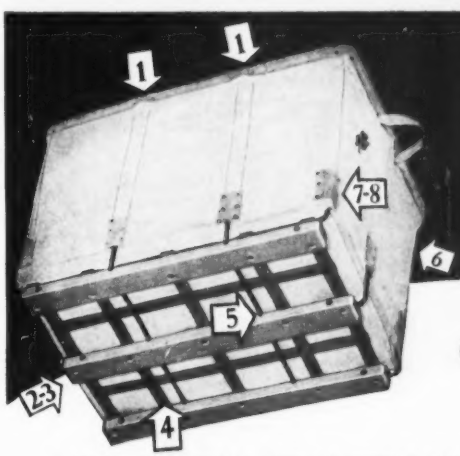
- EXCELLENT for BEAM DYEING
- UNIFORM WARP TENSION
- BEAM DENSITY — HYDRAULICALLY CONTROLLED

THIS WARPER HAS VARIABLE SPEED CONTROL. EFFICIENT BRAKING. ALL ANTI-FRICTION BEARINGS THROUGHOUT AND ITS PROVEN PERFORMANCE MAKES IT A TRULY OUTSTANDING BUY.

- Cotton and Rayon Warpers and Creels
- Ball Warping Machines
- Narrow Fabric Warpers
- Intermediate Dresser Stand for Woolen and Worsteds
- Expansion Neck Reeds All types of Expansion Warper, Beamer and Slasher Combs
- Replacement parts for Saco-Lowell and Entwistle Warpers
- Beaming Machines

WAMESIT WARPER COMPANY

40-44 CHURCH STREET LOWELL, MASS.



Compare point for point

with any other basket, and you'll use

SHAMROCK

CANVAS BASKETS, HAMPERS, TRUCKS

Only **Shamrocks give you**

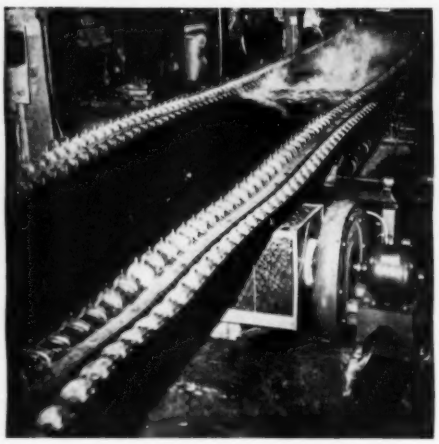
ALL THESE FEATURES

1. Spring steel used in frame is actually 25% higher tensile strength. 2. Full 2" x 1" wood runners. 3. Runners cross-riveted at ends to prevent splitting. (No. 12, 14, 15 and 21 styles.) 4. Rust-proof steel bottom. 5. All runners cross-grooved. 6. Extra heavy duck. Meets government specifications; actually 20% stronger. 7. End of sewing seams brass riveted. 8. Leather reinforcements around top and ends of strips on all popular styles. (Casters on trucks of proper capacity to carry load and give mobility.)

Write for complete catalog—MEESE, Inc., Madison, Ind.

Ask your jobber!

261 Mitchell St.



RED-RAY BURNERS

under open tenter frame increase drying speed on rayons. Production Raised—Costs Lowered.

WRITE FOR BULLETINS

RED-RAY MANUFACTURING CO., INC.

455 West 45th Street New York 19, N. Y.

For Maintained Shrinkage—
Perfect Finish—Long Life

HUYCK

→COMPRESSIVE SHRINKAGE←

BLANKETS

for use in shrinking fabrics to the *"Sanforized"* standard by the Compressive Shrinkage process, are daily meeting the most exacting requirements of finishers throughout the industry. From the lightest and finest fabric to the heaviest denim, there is a special Huyck blanket to meet your specific needs.

Huyck blankets retain high shrinkage and finish properties to the last.

PALMER BLANKETS—also available for your special requirements.

Write for information or see our representative

F. C. HUYCK & SONS
KENWOOD MILLS
Rensselaer, N. Y.

NEWS ABOUT *Mills* (Continued)

GRAVURE PROCESS gives a striking effect of seawater by the use of only two colors, blue-green and darker ultramarine blue, on this carton cover used by Mooresville Mills as container for its towel sets.

facture light rayon fabrics for men's and women's clothing.

Avondale Mills has work going forward on installation of new looms in Catherine plant at Sylacauga, Ala., for manufacture of corduroys. Mill has been manufacturing yarns.

Bibb Mfg. Co., Macon, Ga., is arranging immediate call for bids for new office building reported to cost close to $250,000. League, Warren & Riley, Grand Bldg., Macon, is architect.

Broad Brook Co., Broad Brook, Conn., has begun addition to plant. E. B. McGurk, Inc., 355 Barbour St., Hartford, is completing excavation work for foundations. Bartlett-Brainard Co., 103 Woodbine St., Hartford, is general contractor.

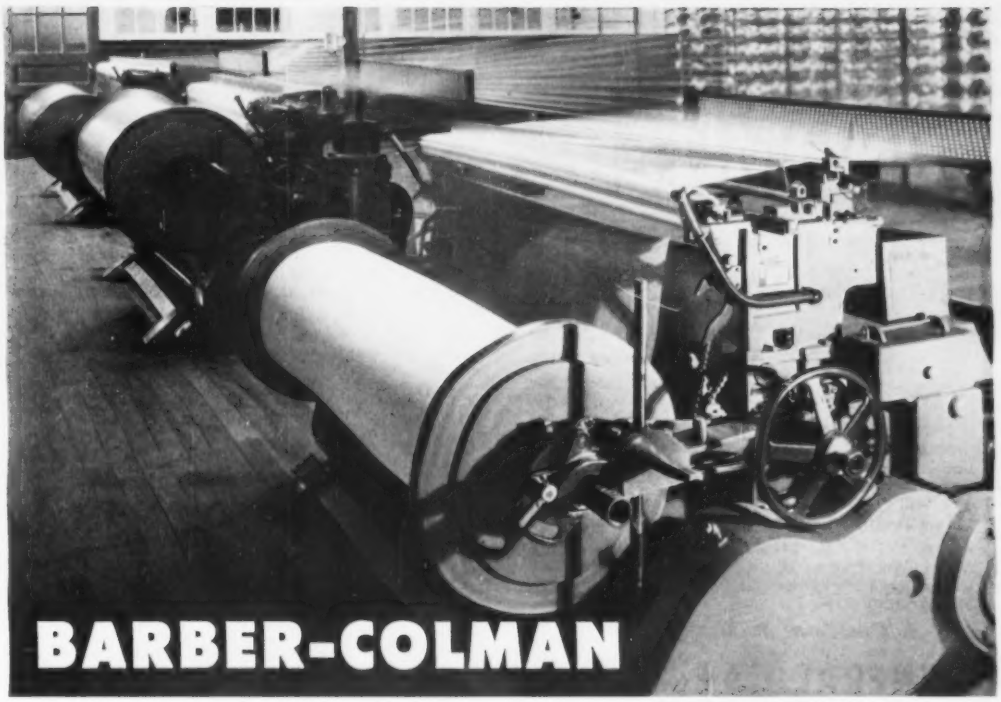
Clark Thread Co., Bloomfield, N. J., has sold local mill and will remove entire equipment to Clarksdale, Ga., for use at various Southern mills, where increased operations will be carried out. Transfer is to be completed by close of year.

Concord Weaving Mills, Inc., Pawtucket, R. I., has been chartered with incorporators consisting of Maxwell W. Waldman, Sylvia Waldman, and Morris S. Waldman, for purpose of weaving narrow, fabrics, venetian blind tape, and other similar and allied products.

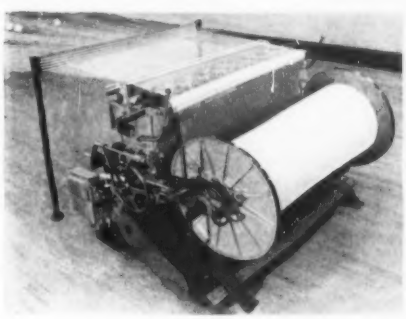
Crown Cotton Mills, Dalton, Ga., is installing 34 new H & B spinning frames in Boylston plant. Frames, which are equipped with one-shot lubrication systems, will be put into operation as soon as possible. Additional changes include conversion of eight speeders and eight intermediates to model J-3. In another branch of mill, 48 new H & B long-draft spinning frames have been placed in operation within last year.

Dallas Cotton Mills, Dallas, Tex., has been purchased by Burton-Dixie Corp., bedding manufacturer. Price paid was not announced. Dallas plant will manufacture complete line of Burton-Dixie products, and will augment plant facilities of eight other plants. Latest in new equipment will be installed

Dan River Mills, Inc., Danville, Va., recently made personnel changes. Basil D. Browder, vice president, has assumed general direction of gray-goods division, while Raymond E. Henderson is now managing gray-goods division at both Schoolfield and Riverside plants. L. K. Fitzgerald, former manager at Riverside, is now manager of finishing and development department at Schoolfield. Julian B. Cumming and R. M. Stephens are now superintendents of Schoolfield and Riverside divisions respectively. Walter D. Vincent and W. H. Spencer, Jr., are assistant superintendents at Schoolfield and Riverside. Willfred W. Lufkin, Jr., is new head of sales in New York, succeeding John M. Hughlett, resigned, who has joined J. P. Stevens & Co., Inc. Robert S. Dempsey, formerly with Monsanto Chemical Co., now heads Dan River "Wrinkl-



HIGH SPEED FILAMENT YARN WARPER



PRODUCES HIGH QUALITY BEAMS

Mills running rayon or other filament yarns can obtain better beams with this new Barber-Colman Warper. By means of the unique and outstandingly successful Barber-Colman let-off mechanism, truly concentric beams with uniform tension and uniform density throughout are consistently produced. This mechanism automatically maintains constant pressure between the driving drum and the surface of the beam at all times. The let-off is conveniently adjustable so that the density can be accurately controlled to suit mill requirements. A smooth, quick-acting brake mechanism provides a rapid but non-damaging stop. An accurate clock enables the operator to produce beams of uniform length. Maximum speed available is 600 yards per minute, though the warper must usually be run at less than capacity due to yarn and creel limitations. Full details regarding this new Warper will be supplied by your Barber-Colman representative, who will welcome any opportunity to discuss possible applications with you.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND

"TEXTILES UNLIMITED"

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over 40 ways to improve quality and cut deep into manufacturing costs

Before you modernize, get all the facts you need... the latest information on many new methods and processes. Arrange NOW to see "Textiles Unlimited", General Electric's new 30-minute, full-color, sound movie on textile mill modernization. You will also receive a 100-page reference manual, "How Textile Mills Are Modernizing." It's packed with cost-cutting, quality-improving ideas you'll want! Contact your nearest General Electric office today. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

A More Power To America Program

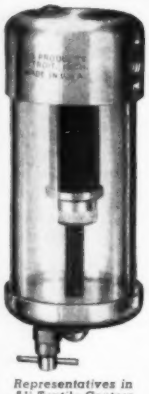
GENERAL ELECTRIC

654-9

DO YOU HAVE

WATER, DIRT or SLUDGE IN YOUR AIR-LINES?

This New M-B AUTOMATIC AIR-LINE FILTER



Representatives in All Textile Centers

is equipped with RIBBON TYPE FILTERING ELEMENT . . . Removes solids 10 microns (.00039) and larger. It is a radical departure from general practice, bowl being transparent plastic. Consequently all foreign matter filtered from the air-line is clearly visible, eliminating guess work as to when filtering element should be cleaned or bowl drained . . . There is NO WATER, DIRT OR OIL in compressed air that has passed through this filter . . . This piece of equipment gives maximum protection to air-operated controls on Slashers and Humidifiers, also Blow-off of the Knotting Device on Barber-Coleman Spoolers, also Abbott Winders and Blow-off hoses in Weaving and Spinning Rooms . . . This new Filter affords our "Amoskeag" Pneumatic ROLL PICKER, Model A.V.T., or similarly operated equipment, maximum protection.

WRITE FOR LITERATURE

M·B PRODUCTS
130-134 E. Larned St.
DETROIT 26, MICHIGAN

NEWS ABOUT *Mills*

Shed" merchandising and promotion.

Elk Cotton Mills, Fayetteville, Tenn., plans addition estimated to cost between $150,000 and $200,000. New equipment will be installed bringing total cost of all improvements to about $750,000.

Fieldcrest Mills, Leaksville, N. C., is installing new opening machinery at bedspread mill estimated to cost $50,000. Orders have been placed for additional opening and cleaning equipment for modernization of blanket mill and sheeting mill at Draper, S. C. Two boilers at woolen mill are being moved to bedspread boiler-room site. Smokestack 175 ft. high is to be constructed.

Gold-Tex Fabrics Corp., Rock Hill, S. C., has let contract to A. S. Pope, Rock Hill, for one-story warehouse addition, portion to be used as waste house. Beam & MacKintosh, Charlotte, N. C., is architect.

Hartwell Mills, Hartwell, Ga., will begin at once $750,000 expansion program on which J. E. Sirrine Co., Greenville, S. C., did design engineering and C. M. Guest & Sons, Anderson, S. C., has construction contract. Plant will be air conditioned, using refrigeration.

Kendall Mills Div. of Bauer & Black, Toronto, Ont., has let contract to Milne & Nicholls, Ltd., 57 Bloor St., for one-story mill unit, 300x300 ft., estimated to cost close to $500,000 with equipment.

Pinecrest Cotton Mills, Pine Bluff, Ark., has new plant nearing completion. Building will contain approximately 113,000 sq. ft. of floor space. Plant will manufacture and finish bed and hospital linen. Cost is estimated at $1,000,000.

Russell Mfg. Co., Middletown, Conn., is scheduled to build plant in Bennettsville, S. C., for manufacture of narrow fabrics. Plant will have 54,000 sq. ft. of floor space and employ 135 at start of operations which will begin soon after Jan. 1. Company has purchased Howard Asbestos Co., Northfield, Vt., to insure itself a supply of high-quality asbestos yarns for brake linings and clutch facings.

Swift Mfg. Co., Columbus, Ga., has begun excavation on site of new cotton warehouse. Building will cost about $157,000 and will provide 50,000 sq. ft. for floor space for 20,000 bales of cotton.

West Point Mfg. Co., Inc., Shawmut, Ala., has let contract to Batson-Cook Co., West Point, Ga., for proposed new laboratory and research building at local mill. Warren, Knight & Davis, Birmingham, Ala., is architect.

Woolen- and Worsted-Mill News

Bachmann Uxbridge Worsted Corp., new plant at Talladega, Ala., has begun operation

SHOWROOM of Botany Mills, Inc., Passaic, N. J., office in New York on 46th Street has a facade of white marble with a giant picture window extending to the sidewalk and framed in red marble. Effect is one of an overscaled showcase open to the street.

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The Changing Times and the Demands on Management Today

THE conditions under which business enterprises must be conducted are continually changing. Frequent adjustments in policies are necessary to meet changes in laws and other public controls, in social forces, in markets, and even in international economics. The problem of making these adjustments and at the same time keeping abreast of progress in the science and art of management has become a formidable challenge to executives. They are finding it more and more difficult to get time for policy making and administration and also for the inauguration of operating improvements. Moreover, these conflicting demands come at a time when it is more important than ever that planning be skillfully done, organization be flexible and responsive, operating procedures be appropriate, effective, and economical, and relationships among workers on all levels be harmonious.

(Excerpt from Association of Consulting Management Engineers pamphlet.)

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Boulin Tensiometers measure yarn, cord, filament and fine wire Tensions in winding and coiling operations. Their use insures uniformity and prevents overstretching and breaking of strands. Made in 12 standard ranges from 0 to 10 grams and up to 2 to 20 lbs. Full information contained in bulletin No. 647.

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NEWS ABOUT *Mills*

with 50 operatives as initial personnel. New enterprise is occupying modern plant formerly owned and operated by Highland City Mills. Plant was closed for several months prior to purchase last spring.

Baron Woolen Mills, Brigham City, Utah, was damaged by fire recently to extent of $75,000. Second floor was burned out and machinery on ground floor was also damaged. Rulon Baron, owner of mill, said plant would be rebuilt as soon as possible.

Chatham Mfg. Co., Waynesboro, Va., is discontinuing operations at Christmas, after which time company cotton crib-blanket production will be consolidated at the parent plant at Elkin, N. C. The 100-loom Waynesboro plant was leased last year from Textron, Inc., with an option to buy at the end of 1949.

Collins & Aikman Corp., New York, owner of double-shuttle automatic-loom patents, is offering the patent rights to several European textile manufacturers. The increased capacity possible with the double-shuttle loom is expected to raise European production in pile fabrics, upholstery, and suitings.

Forstmann Woolen Co. has formed new company to be known as Forstmann Australia, Ltd., for purpose of purchasing Australian wool requirements. Officers of new corporation are: Curt E. Forstmann, chairman of board; W. Raymond Bladwell, president and managing director; Julius G. Forstmann, vice president and treasurer. Bernard A. Rosenberg and James Wilson have been elected directors of the parent company in Passaic, N. J.

Lincoln Spinning Mill, Pawtucket, R. I., one of Axelrod group, has put into operation first complete installation of Alsacienne worsted equipment in this country since war.

North Star Woolen Mills Co., Minneapolis, Minn., is moving all operations to Lima, Ohio. Construction of two new buildings is expected to begin soon, and moving of equipment is expected to be completed by spring.

Tioga Worsted Mills, Inc., Philadelphia, Pa., has converted its worsted-suiting production entirely to pick-and-pick sharkskin, glen-plaid, check, and other fancy-pattern rayon suitings. The new line is being finished with resins to give a worsted-type hand.

Walhalla Mills, Inc., Walhalla, S. C., has been organized to manufacture worsted cloth. New corporation has secured charter with capital stock of $32,000, of which 50% is withheld. Walhalla citizens are furnishing $16,000 cash. Operations have already begun. Arthur Brown is president; Fred J. Came, executive vice president; John M. Schofield, secretary and legal advisor; and T. V. Derrick, treasurer.

Synthetic-Mill News

Burlington Mills Corp., Greensboro, N. C., has completed three-year modernization and expansion program at Cramerton Div. plants at cost of over $1,000,000. Plants are now turning out over half-million yards weekly. The company recently donated a C-4 60-in. loom to N. C. Vocational Textile School, Belmont, N. C.

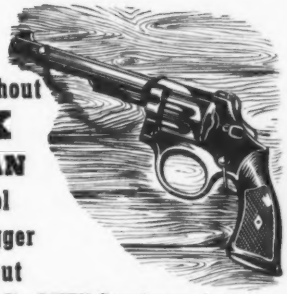
Chatham Mills, Inc., Pittsboro, N. C., is completing a two-story addition for new machinery to double production. Among new items being installed are 32 Fletcher looms (with 32 more to be installed at later date), and also winding, quilling, and warping machines.

Coast Mfg. & Supply Co., Livermore, Cal., is constructing textile mill to weave, finish, dye, coat, and process all types of glass-fiber fabrics. Introductory line is to be known as Trevarno glass fabrics. This will include decorative, coated, and industrial materials. H. Bailey Litte, formerly office manager at San Francisco for Owens-Corning Fiberglas Co., has joined Coast Mfg. & Supply Co. as sales manager.

Cordene Mill, Monroe, N. C., has begun operations on production of novelty yarns. French Campbell and B. T. Bumgardner are head of newly organized concern.

Frank Ix & Sons, New York, is expected to establish million-dollar rayon plant in Lexington, N. C., where company has purchased 113-acre tract of land just outside city limits.

A Watchman without a **DETEX GUARDSMAN** is like a Pistol without a trigger ...ornamental, but not <u>useful</u>.



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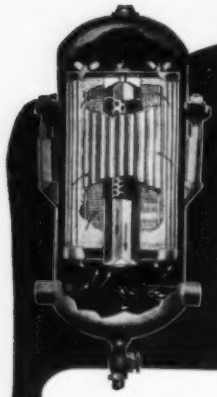

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NEWS ABOUT *Mills*

Schwarzenbach-Huber Co., Luray, Va., is transferring machinery to this unit in preparation for expanded floor space and production of nylon fabrics at company weaving plants when additional supplies of yarn become available. Equipment is being taken from company Altoona, Pa., unit, where nylon throwing will be gradually reduced and eventually suspended.

William Skinner & Sons, Holyoke, Mass., reports first part of new addition to mill is now in operation. Second shipment of looms is now being installed, and third shipment is due later in fall. When completed, 200 Draper looms will be in operation. New two-story building is reported to cost $200,000 and contains most modern devices for efficient operation.

Textron, Inc., Providence, R. I.—Executive committee of this company has authorized new weaving plant for nylon and other synthetic fibers in Rhode Island provided state will adopt plan put forward by Royal Little, president of company. Plan is that state encourage new industry by paying for new plants and leasing them back to tenants on basis to amortize state's interest in project in 20 years. Textron's proposed plant would cost about $1,500,000 and contain about $1,000,000 worth of machinery.

Knitting-Mill News

Berkshire Knitting Mills, Reading, Pa., has chosen East London as site for hosiery plant in South Africa. New mill, which is estimated to cost $260,000, will cover about 50,000 sq. ft. of floor space. Temporary headquarters will be established in available wool-storage buildings, and production will begin later this year. Operations in temporary plant will be confined to dyeing and finishing of gray hosiery shipped in from U. S. Company will be known as Berkshire Knitting (S. A.) Ltd., and will be under direction of D. J. Hill.

Burlington Mills Corp., Vance plant, Kernersville, N. C., has begun installation of machinery. Plant, which is new home of half-hose and gray processing operations for Burlington Mills Corp., expects to be in full operation soon.

Chadbourn Hosiery Mill, plant at Charlotte, N. C., has begun production on 60-gage, 30-section full-fashioned hosiery knitting machine, which has been installed as first phase of $750,000 expansion and modernization program. Operated with electronic controls, machine has output of approximately 15 doz. prs. in 8-hour day.

Citrus Hosiery Mills, Redlnd, Calif., has begun operation in new $250,000 plant. Production has begun on 16-section, 54-gage unit. Karl Lieberknecht machine was trucked to factory. Raymond Good, owner of mill, plans to liquidate his plant at Langhorne, Pa., and make Redlands his permanent headquarters. Mr. Good plans to have two 60-gage machines in operation by early spring. Mill is fully air-conditioned by 10-ton refrigeration units.

Delafare Textile Co., Inc., Elkton, Md., is constructing plant in Middletown, Del., to produce nylon knit goods. Building, which will be of cement blocks, will occupy three acres of ground. It will house latest knitting equipment.

Fieldcrest Hosiery Mill, Fieldale, Va., has begun $125,000 improvement program which includes installation of two new 51-gage and two 60-gage full-fashioned knitting machines. Two machines already have been installed, and other two are to be placed in mill between now and first of year.

Grayson-Millis Hosiery Mills, Inc., Independence, Va., has been capitalized at $350,000 to manufacture hosiery and other knit goods. R. Scott Elliott, of Independence, is president.

Independence Hosiery Mill, Inc., Independence, Va., is newly organized concern, which will begin operations at early date. Burlington Mills Corp. property in Independence, which closed in April, has been purchased by new corporation. Eight to 12 machines will be set up in plant, employing about 100 persons. Operations are expected to be

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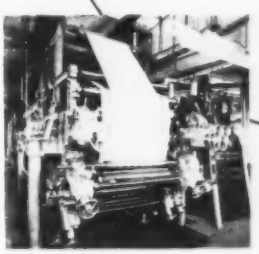

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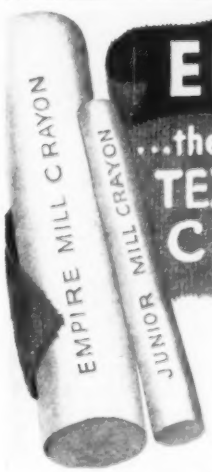

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NEWS ABOUT *Mills*

(Continued)

gin by Nov. 1. New corporation has been capitalized at $350,000.

Liberty Hosiery Mills, Liberty, N. C., is to put into full operation its branch unit at Gibsonville, N. C., in October. Mill is being remodeled and will produce 400-needle seamless hosiery.

Lynn Hosiery Mills, Inc., Mount Holly, N. C., will construct one-story addition to plant which is estimated will cost over $50,000.

Magnet Mills, Inc., Clinton, Tenn., has installed new equipment in mill to replace obsolete machines; 60-gage full-fashioned machine is now being installed. Mill has been air conditioned at cost of approximately $300,000. New wing, containing boarding room, has been added.

Mammoth Hosiery Mill, Philadelphia, Pa., will move to Iuka, Miss., soon. Mill will be under supervision of Pete Arnold, North Wales, Pa. Company also has mills at Strasburg and North Wales, Pa.

Monroe Mills, Monroeville, Ala., plans building program which calls for addition of 15,000 sq. ft. of floor space. Building will measure 160x90 ft. Office space at plant is also being increased. Work is about completed.

Nutron Hosiery Mills Inc., High Point, N. C., has been incorporated with capital stock of $100,000, with $300 subscribed by M. O. Bollinger, Jr., A. C. Bollinger, and B. A. Bollinger, all of High Point.

Pleasant Valley Knitters, Inc., Mansfield, Conn., has filed organization papers and lists following officers: president, Wilford Kay, and secretary, I. Mayo Cohen, both of Willimantic; treasurer, Fred C. Linder, South Willington. Company has $12,000 paid in cash and property.

Trebor Knitting Mills, Inc., New York, N. Y., has leased space in building at 104 Bleecker St. for local mill.

Vanta Co., Waltham, Mass., manufacturer of knitted underwear, is about ready to begin operations at new plant in Moultrie, Ga.

Dyeing- and Finishing Plant News

Bradford Dyeing Assn. (Canada) Ltd., with head office at 58 Front St. W., Toronto, has acquired Consolidated Piece Dyers, Ltd., with plants in Montreal, Toronto, and Cobourg, Ont. New owners are planning erection of $1,000,000 addition to plant at Cobourg.

Colonial Mills, Inc., Clarksville Finishing Div., Greensboro, N. C., is constructing 50,000 sq. ft. addition under supervision of C. M. Guest & Sons, Building, expected to be completed in four months, is to be used to enlarge laboratory and dyehouse and to provide additional space for burling and mending and for warehousing. Biberstein & Bowles, Charlotte, is engineer.

Jamestown Finishing Co., Jamestown, R. I., has been incorporated with capital of $50,000, to operate dyeing and finishing plant. George R. Beane, 91 Pond St., Cranston, R. I., is principal incorporator and representative.

Lincoln Processing Co., Lincoln, R. I., has been chartered with capital of $150,000 to operate dyeing and finishing plant. Francis W. Conlon, 54 Wakefield St., West Warwick, R. I., is principal incorporator and representative.

Nylon Finishing & Separating Corp., 201 Pennsylvania Ave., Bangor, Pa., has been incorporated with capital of $10,000. Directors of company are B. J. Longstreet, H. Miller, and H. Meyer of New York.

Sayles Finishing Plants, Inc., Saylesville, R. I., has plans underway for water-treatment plant at mill. Weston & Sampson, 14 Beacon St., Boston, Mass., is engineer.

Shamrock Textile Processing Co., Inc., Paterson, N. J., is new firm organized to bleach, dye, and print silk and other materials. Incorporators are Raymond E. Caffray, Tuxedo Park, N. Y.; W. L. Cavanaugh, Newark; and Charlotte Perruzzi, Paterson, N. J.

J. P. Stevens & Co., Inc., plans to begin construction

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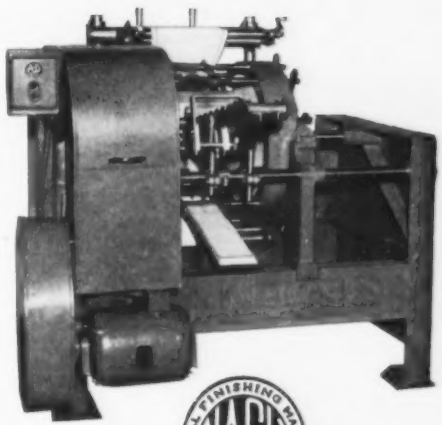

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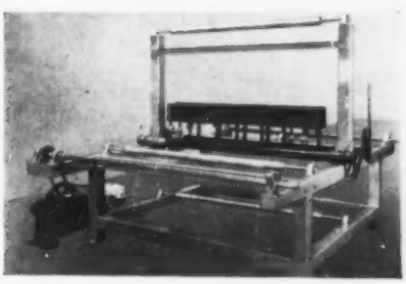

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For complete specifications, write for Bulletin TW-11.

Carbomatic singeing unit is fully protected by Patent No. 2462166 and no other firm or individual is authorized to manufacture this device.

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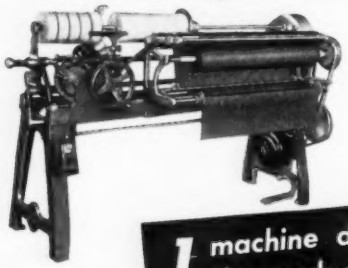

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NEWS ABOUT *Mills*

(Continued)

soon on 200,000 sq. ft. multi-million-dollar rayon-finishing plant on Pee Dee River at Kollock near Cheraw, S. C. Plant, designed by J. E. Sirrine Co., and to be constructed by Daniel Construction Co., will employ about 300 persons, according to James Harrell, in charge of company finishing operations.

Waterway Projects, Inc., 1012 N. Highland Ave., Los Angeles, Calif., has set up single pilot unit to dye and finish glass fiber fabric which is planned to be forerunner of six similar units. Company has devised special processing method and finish which it brands "Soft-Flex." It also screen-prints glass fabric under brand "Perm-O-Color." Fabrics are designed for drapery and other decorative use, and are of course fireproof. Clarence Klug, with many years' experience in glass field, is founder of company and general manager.

NEWS ABOUT *Men*

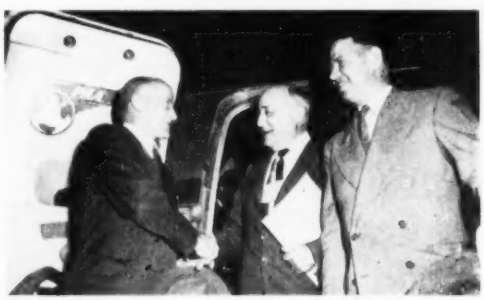
Dr. Edward Abrams, former head of the biology division, Institute of Textile Technology, Charlottesville, Va., has set up his own organization, Laboratories Research, Maroneck, N. Y., for consulting on microbiological deterioration of organic and fibrous materials, stream-pollution abatement, and general bacteriological and biochemical problems.

Edward F. Addiss, recently with Burlington Mills Corp., has joined Verney Corp., New York, in newly created position of executive vice president. **Joseph F. Berlinger** has been named vice president in charge of sales for company. **William F. Spalding**, manager of gray-goods division, has taken on the additional duties of being assistant to Mr. Berlinger.

J. P. Barker has been appointed assistant superintendent at M. T. Stevens & Sons, North Andover, Mass. He was previously with Lincoln Mills Co., Pascoag, R. I.

Richard Barry, New Bedford, Mass., has become superintendent of Alamac Knitting Mills, Indian Orchard, Mass.

Sherman Boutwell, former superintendent at U. S. Bunting Co., Lowell, Mass., is now superintendent of Ames Worsted Co., Southbridge, Mass. **L. Broughton**, his former assistant at U. S. Bunting, suc-



EDWIN D. FOWLE, publisher of TEXTILE WORLD, left last month for the Textile Machinery Exhibition, Manchester, England, on a Pan American World Airways Stratocruiser. He was given a TEXTILE WORLD Bon Voyage by William Buxman, manager (center), and C. W. Bendigo, editor-in-chief (right.

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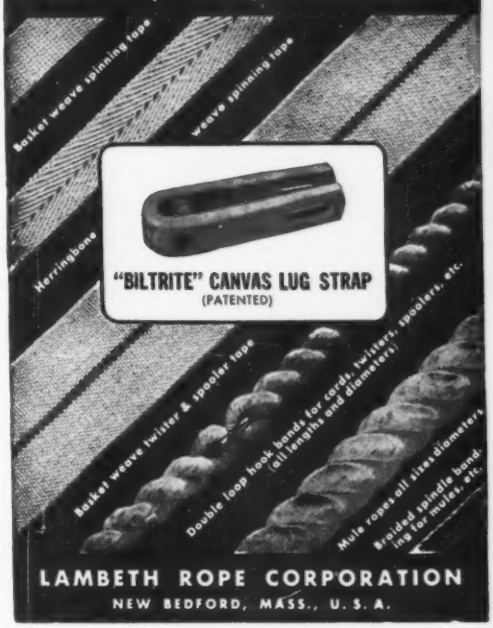
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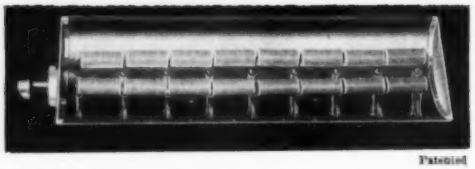

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NEWS ABOUT *Men*

ceeds Mr. Boutwell as superintendent at that mill.

J. D. Boyd, personnel manager of Melrose Hosiery Mills, High Point, N. C., has taken on additional duties as personnel consultant in High Point.

Ferd Bray, former production manager of woolen and worsted division of Cohn-Hall-Marx Co., New York, is now general manager of Holyoke Fabrics, Inc., Holyoke, Mass.

Norman Brown, former assistant resident manager of Ayer Mill of American Woolen Co., Lawrence, Mass., has been promoted to resident manager at company's Globe Mill, Utica, N. Y., succeeding **W. H. Rhodes,** who is retiring.

Seth Butcher has become finishing overseer at Morschner Dye Works, Needham Heights, Mass. He was formerly with Wyandotte Worsted Mills, Wyandotte, Mass.

Hal Byrd has been appointed purchasing agent for Deering, Milliken & Co., and will divide his time between Spartanburg, S. C., and Greenville, S. C. He succeeds **M. K. Thackston,** resigned.

William Camerson has become overseer of dyeing at new plant of Pacific Mills, Brookneal, Va.

Arthur F. Chase, Jr., assistant superintendent at Jackson Mill of Textron, Inc., Nashua, N. H., has been transferred to Textron's Puerto Rico plant in executive capacity.

Floyd Craddock has become overseer of finishing at new plant of Pacific Mills, Brookneal, Va.

J. T. Crawford, of Great Falls, S. C., has been named research director of carding and spinning for 36 mills in J. P. Stevens & Co. group. Mr. Crawford has been manager of three plants of Republic Cotton Mills at Great Falls for last two years.

W. F. Crowder, formerly with Nelson plant of American Yarn & Processing Co., is now superintendent of Jordan Spinning Co., Cedar Falls, N. C.

Frank Decker has become superintendent of knit-goods finishing at Kilburn Mills, New Bedford, Mass., succeeding **Richard Barry.**

Herman Eisenstat, formerly dyer and plant manager at Crescent Hosiery Corp., Nixota, Tenn., has been elected vice president of Dyemaster Hosiery Finishing Co., New York.

Charles C. Ewan, overseer of finishing department of Cannon Mills Co., Kannapolis, N. C., for last 26 years, has retired.

Russell T. Fisher was re-elected president of National Assn. of Cotton Mfrs. for his 13th consecutive term recently. **Frank Lyman,** Fitchburg Yarn Co., Fitchburg, Mass., is first vice president, and represents the organization on the board of the newly formed American Cotton Manufacturers Institute. **Lawton S. Brayton,** Sagamore Mfg. Co., Fall River, Mass., is second vice president of NACM. Directors are **Robert Braun,** Bates Mfg. Co.; **Kenneth B. Cook,** Crown Mfg. Co. and Wamsutta Mills; **Ralph T. Marshall,** Utica & Mohawk Cotton Mills; **Norman T. Thomas,** Naumkeag Steam Cotton Co.; and **J. Linzee Weld,** Textron, Inc.

George Gahm, superintendent of yarn department of Wood Worsted Mills of American Woolen Co., Lawrence, Mass., has retired under company retirement-pension plan.

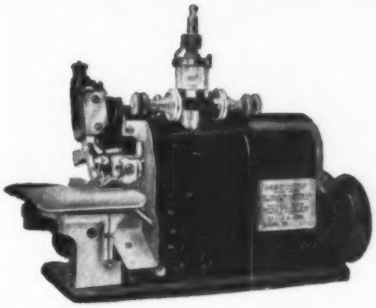
John Gassman has become superintendent of Abdon Textiles, Inc., Fall River, Mass.

Walter L. Goddard, general manager for Paton Mfg. Co., Sherbrooke, Que., has resigned and is at Ayer Mill of American Woolen Co., Lawrence, Mass., as assistant general manager.

Bernard Gutmann, former converter selling under his own name, has joined Colonial Mills, Inc., and is in charge of fabric development for the shirting division.

Charles C. Hammer has been named controller of Textron, Inc., New York. Mr. Hammer has been associated with company since 1946.

F. Woodson Hancock, who has been associated with Aberfoyle Mfg. Co., Chester, Pa.,



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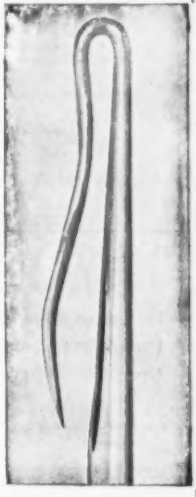

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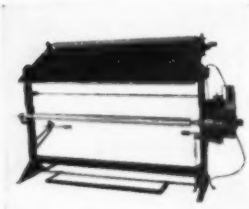

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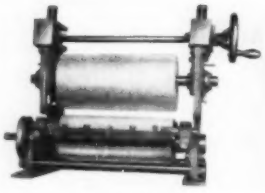

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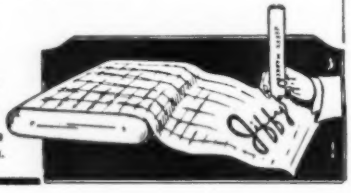


NEWS ABOUT *Men*

(Continued)

since 1920, and who became vice president of company in 1940, has retired from that office. He will continue as director.

Gordon Hart, Anderson, S. C., has become plant manager of Pickens Div. of Textron Southern, Inc., Pickens, S. C., succeeding **John Reeve**, who was promoted to Anderson, S. C., branch as industrial engineer of sewing division.

William J. Hart, research chemist from Summit, N. J., is the new head of the Institute of Textile Technology physical chemistry section. He was formerly concerned with research and development work for Celanese Corp. of America, U. S. Rubber Co., and Flintkote Co., and has a number of patents to his credit.

Walter E. Hildick has become manufacturing agent for Arlington Mills Div. of William Whitman Co., Lawrence, Mass., succeeding **Clifford W. Brown**, resigned. **J. Sime Mercer**, manufacturing agent from 1939 to 1947 and since then management advisor, has resigned that post.

D. M. Holsenbeck, Jr., has joined Stonecutter Mills Corp., Spindale, N. C., as technical superintendent of gray goods mill in charge of quality control and process improvement. He was lately with Tennessee Eastman Corp.

Martin H. Horchler, former executive vice president, William Whitman Co., Inc., is now general manager of Francis Willey & Co., wool top makers, Boston, Mass.

Carl A. Johnson, formerly of Fisherville, Mass., has become manager of Republic Cotton Mills, Great Falls, S. C. He succeeds **J. T. Crawford** who is now research director of carding and spinning for J. P. Stevens & Co.

John D. Jones, for past 32 years general superintendent of operation at Union-Buffalo Mills plants in Union and Buffalo, S. C., has relinquished post to become superintendent of Santee Cotton Mills, Bamberg, S. C.

Paul M. Jones, sales-promotion manager of National Cotton Council, Memphis, Tenn., since 1944, is now heading the Council's sales-promotion office recently set up in New York.

Leon C. Lis has been named production manager of fiber division of Virginia-Carolina Chemical Corp., and will be in charge of operations at Taftville, Conn., plant. Mr. Lis has been with company for some time as consultant.

D. E. Long has become superintendent of Georgia Duck & Cordage Mill, Scottdale, Ga.

J. H. ter Kuile, Dutch economist, is receiving training in the U. S. in classifying cotton under an ECA technical-assistance project to aid the Netherlands' textile industry. After completing his studies in this country, he will return to Enschede, the Netherlands, to become the country's second certified cotton classer.

O. Reid LeClair has resigned as assistant vice-president in charge of production at Goodall-Sanford, Inc., and has reestablished his former consulting business at Centerdale, R. I.

Carlyle B. Lews, formerly superintendent of Lexington Rayon Plant of Burlington Mills Corp., Lexington, N. C., has been promoted to group manager for Burlington filament division plants. He has been succeeded as superintendent at Lexington by **R. V. Fitch**, former assistant superintendent there.

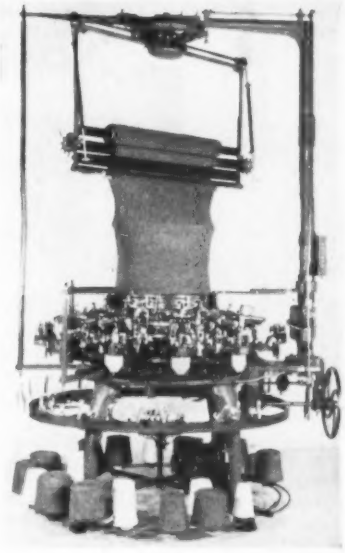
Henry J. Linton is now production manager of Leonard Silk Mills, Inc., Paterson, N. J.

J. R. Meikle, assistant manager of Patterson Mills Co., Roanoke Rapids, Va., has been promoted general manager of Rosemary Mfg. Co. and is in charge of all manufacturing and finishing operations.

Marvin Moore, superintendent of Newton Knitting Mills, Newton, N. C., for past three years, has resigned to become head of chemical division of Cecil H. Jarrett Co., Newton, which was recently organized to serve textile industry.

J. F. Odenheimer, president of Lane Cotton Mills, New Orleans, La., since 1945, has resigned his position.

Ben Oldfield has retired as overseer of finishing at Ayer



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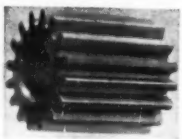
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NEWS ABOUT Men

Mill of American Woolen Co., Lawrence, Mass. Mr. Oldfield had been with company since 1910. He will be succeeded by **Tom Bruce**, who has been overseer of finishing at Ware Woolen Co., Ware, Mass.

Oliver S. Plantinga, former plant manager, chemical division, Marathon Corp., Rothschild, Wis., has joined Johnson & Johnson, New Brunswick, N. J., as director of cotton and gauze research.

Charles H. Ponder has become superintendent of Calvine Cotton Mills, Inc., Charlotte, N. C., succeeding **J. R. Wikle.**

Joseph Powdrell, founder and president of Powdrell & Alexander, Danielson, Conn., has been elected to position as chairman of board. He is succeeded in presidency by **Earle C. Powdrell**, former executive vice president.

T. Wendell Prestwich, vice president of American Woolen Co. since 1943, has retired under the company retirement plan. He was with the firm for 46 years.

Harry L. Ray has become superintendent of Nashawena Mills, New Bedford, Mass. He was formerly with Nonquitt Mills, New Bedford.

G. Nathan Reed is the new faculty dean at Lowell Textile Institute, Lowell, Mass. He was formerly head of the inorganic-chemistry division of the Institute of Textile Technology.

J. H. Ripple is new manager of Fieldcrest Sheeting & Blanket Mills, Draper, N. C. **Joseph H. Lindsay**, former manager of Fieldcrest Domestic Mills, Spray, N. C., succeeds Mr. Ripple as manager of Fieldcrest plant at Fieldale, Va.

William F. Robertson, former vice president, general manager, and director of N. C. Finishing Co., has become assistant general manager at Ware Shoals Div., Riegel Textile Corp.

John D. Siewers is new general manager of Washington Mills Co., Fries, Va. He succeeds **John Thorp**, vice president and general manager, who retired recently after more than 48 years of service with company. Mr. Siewers was formerly plant manager of Washington Mills Co.

Richard Stoehr, superintendent of finishing for Arlington Mills, Lawrence, Mass., for past two years, is now superintendent of cloth department of Wanskuck Co., Providence, R. I.

Frank Valpey has been appointed superintendent of cloth at Ayer Mills, Lawrence, Mass., to succeed **Harry Wilkinson**, retired. Mr. Valpey has been employed as designer at Ayer for a number of years.

OBITUARY

J. Arthur Atwood, 85, president of Wauregan Mills and Ponemah Mills, Taftville, Conn., and a member of the board of directors of Lorraine Mfg. Co., Pawtucket, R. I., died in September.

John I. Lane, 73, president of W. T. Lane & Bros., Inc., Poughkeepsie, N. Y., died Oct. 1.

Charles A. Milliken, 69, retired executive of Mt. Hope Finishing Co. and Dighton Mfg. Co., North Dighton, Mass., died Oct. 1. He was at one time engaged in the cotton-yarn business.

R. D. Paris, 69, who operated the Paris Woolen Mills, Stayton, Ore., for 11 years prior to his retirement in 1943, died recently in Salem, Ore.

Joseph E. Pitts, 88, former associate with his father in the family-owned woolen mills at St. John's Ontario, Canada, died in September.

Carl A. Rudisill, 65, textile industrialist and philanthropist, died recently in Cherryville, N. C. Secretary and treasurer of the newly organized Carlton Yarn Mills in 1922, he soon rose to be president. In 1896, his first job in a mill had been a doffer boy, earning 10 cents a day. Noted for his many interests and philanthropies, he served as mayor of Cherryville from 1918 through 1920.

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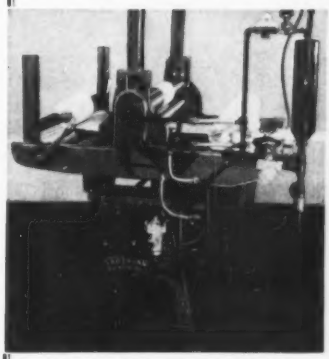

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These are the comments of mill managers using our 7¾" C & K type bobbins, with heavier gauge ferrules and corrosion-proof rings. These bobbins are solid except for 2¼" winder hole, specially designed for use with automatic winders and in S6 automatic looms. Factory tested for straightness and proven in use to give less breakage in silk, rayon and nylon mills. Can make prompt delivery.

CLARK MANUFACTURING COMPANY

ORANGE • VIRGINIA

LACY ATHERTON & DAVIS

Architects & Engineers

INDUSTRIAL & TEXTILE BUILDINGS

WILKES-BARRE & HARRISBURG PENNSYLVANIA

Famous Quality Shuttles

The choice of particular textile mills for dependable service, backed by the experience of 118 years.

SOUTHERN REPRESENTATIVES: Watson and Desmond, Box 1954, Charlotte, N. C., John W. Littlefield, 810 Woodside Bldg., Greenville, S. C., Walter F. Daboll, Jefferson Bldg., Greensboro, N. C. NORTHERN REPRESENTATIVE: Guy C. Burbank, 32 Beaconsfield Rd., Worcester 2, Mass.

WOOL SILK COTTON

WATSON-WILLIAMS MFG. CO. Millbury, Mass.

NEWS ABOUT Men

W. Emmett Bittner, 52, vice president in charge of purchases at Diamond Alkali Co., Cleveland, Ohio, died in Pittsburgh recently. His career at Diamond Alkali spanned 33 years, with all but three of them in purchasing.

Melvin A. Bupp, 65, manager of John C. Welwood Corp., Murfreesboro, Tenn., died recently. A native of York, Pa., he had been in charge of the plant for 14 years.

Thomas E. Duffy, 68, former head of engineering and mechanical department at Crompton-Shenandoah Co., Waynesboro, Va., died in September. He retired two years ago after 50 years with the firm.

Thomas S. Florence, 73, head of personnel and paymaster department of Fulton Bag & Cotton Mills, Atlanta, Ga., died recently.

Everett H. Fuller, general superintendent of Hampton Print Works Div., Aspinook Corp., Easthampton, Mass., died recently.

Cort W. Gorham, 55, manager of dyeing and finishing of Burlington Mills Corp., New York, died recently. He was at one time associated with National Silk & Printing Co., Paterson, N. J., and Textile Dyeing & Printing Co., Fair Lawn, N. J.

Henry C. Hamilton, 67, secretary of Crown Cotton Mills, Dalton, Ga., died recently. He had been with the company since 1907.

Charles S. Makepeace, 55, for the past 20 years mill engineer of the Lonsdale Co., Lonsdale, R. I., died recently in Providence. A graduate of MIT, he had served on Gov. Pastore's commission to study the R. I. Workmen's Compensation Law.

J. V. O'Brien, 43, head of styling and designing at Bigelow-Sanford Carpet Co., Thompsonville, Conn. and Amsterdam, N. Y., died recently.

Karl H. Sewall, 64, general sales manager of Merrimack Mfg. Co., died in September.

Richard B. Atkins, 56, for more than 30 years with Washington Mills, the last few as superintendent of the knitting room, died Sept. 20.

Thomas W. Johnson, 63, superintendent for 16 years of Scottdale Mills, Scottdale, Ga., died recently. He had been with Scottdale Mills for 31 years.

Frank J. Keller, 47, superintendent of knitting at Groblue Sportswear Co., Newark, N. J., died in September. He had been with the firm 30 years.

J. J. Polak, 65, assistant to the technical vice president, American Enka Corp., Enka, N. C., died recently.

Herbert Thompson, 71, former superintendent at Lymansville Co. mill, Lymansville, R. I., died in September. He was superintendent of Southwell Wool Combing Co. until his retirement five years ago.

Robert L. Bentley, 66, assistant superintendent, Palmetto Cotton Mills, Palmetto, Ga., died September 21. He had held his post at Palmetto for 41 years. He served on the city council for many years.

Joseph Cothern, foreman of Decatur Goodyear Mills, Decatur, Ala., was drowned recently when his fishing boat capsized in the Tennessee River.

Alexander Craighead, 69, retired foreman of the weaving department, Alexander Smith & Sons Carpet Co., Yonkers, N. Y., died in September.

James J. Fletcher, 72, for many years overseer of the finishing room at Cannon Mills Plant 5, Concord, N. C., died in September.

C. K. Gailey, Sr., 74, cotton buyer for Callaway Mills, La Grange, Ga., died recently.

Ernest Hall, 76, for 23 years overseer of weaving at the Fairfax plant of West Point Mfg. Co., Fairfax, Ala., died recently. He was a native of Yorkshire, England.

Joseph K. Newell, 52, overseer of the winding room of Henderson Cotton Mills, Henderson, N. S., died recently.

PENICK & FORD, LTD.
INCORPORATED
CORN STARCHES, DEXTRINES, GUMS, CORN SUGARS & SYRUPS
NEW YORK, N. Y. - - - - CEDAR RAPIDS, IOWA
SOUTHERN OFFICES: ATLANTA, GA. - - - - SPARTANBURG, S. C.

John;
The Starches and Gums which Penick and Ford manufacture for polishing twine and cord have been developed for every phase of this operation.
Lets try their recommendation.
Jim

Mill Executives agree—

LANE CANVAS BASKETS

style #20

• Are made of the finest materials, built to exacting specifications and give years of service satisfaction.

Our Engineers Are at Your Service

W. T. LANE & BROS., Inc.
Manufacturers
Poughkeepsie New York

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MACHINERY
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MANUFACTURERS OF
Textile, Laundry
and
Special Soaps
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Two Great Models for
TESTING MOISTURE CONTENT
in wool, cotton and rayon

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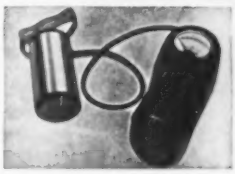
for textiles in loose or compressible forms

MODEL K-2 →
for textiles in cones, rolls and similar forms



Quick, Accurate Readings

In less than 3 seconds you can test moisture content of practically all types of textile materials, including cotton, wool, rayon and nylon in fabrics, packages and loose forms.

This portable instrument is designed for "on the spot" checks in your plant. Moisture Register is easy to operate—requires no technical knowledge or complicated figuring. Cost is negligible in comparison to advantages. Write today for complete details. Specify type of material to be tested.

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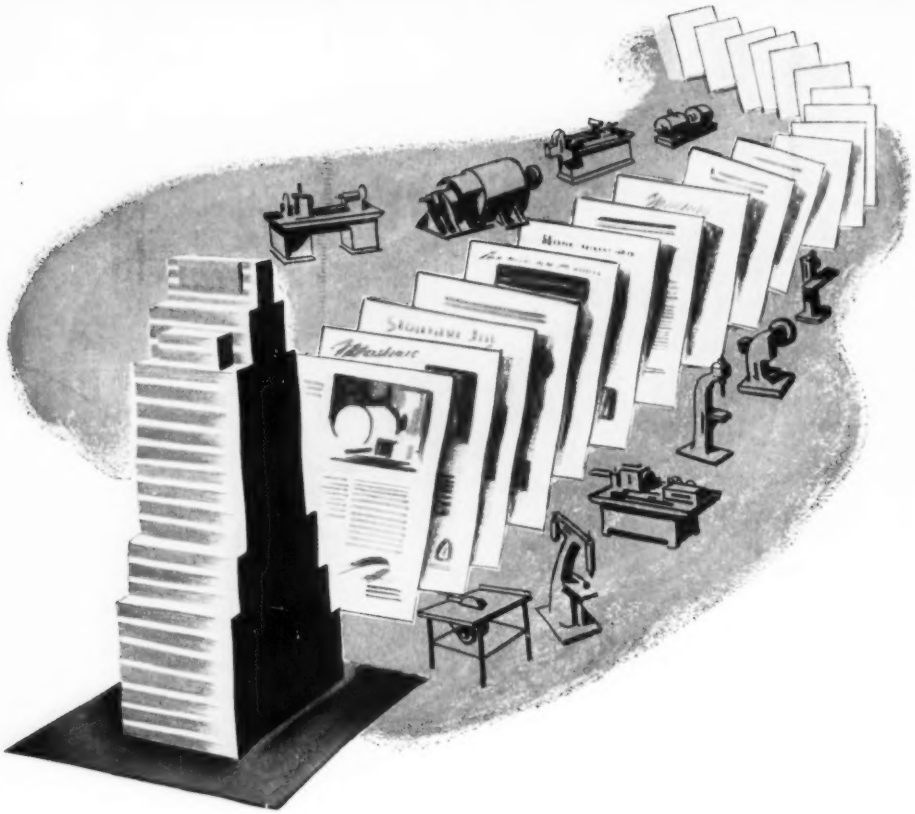

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As you go through the pages of this magazine . . . or of any other McGraw-Hill publication . . . a colorful parade of advertising pages unfolds before your eyes.

If you are like thousands of other readers of these magazines, you'll become an avid spectator of this interesting educational show. You'll take in the *whole* of this passing parade.

Why? Because this parade is a non-stop exhibition of all that's new in industry—new developments in products and services, new ways for the buyer to make use of these products, news which can often mean the difference between profit and loss to you.

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REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (18)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

SEARCHLIGHT SECTION

(Classified Advertising)

EMPLOYMENT: BUSINESS: **"OPPORTUNITIES"** :EQUIPMENT :USED OR RESALE

POSITIONS VACANT

WANTED BY Manufacturing concern in N. Y. Metropolitan area: Chemist for research and development of products for textile processing and finishing. Work is mainly in laboratory with some field service. Thorough knowledge of textile processes required. State age, education and qualifications. Reply P-9834, Textile World.

FINISHING PLANT Superintendent wanted. Experienced man for New England finishing plant. Address applications with full details of experience to P-1092, Textile World.

WANTED BY long established firm, a young man a few years out of college with a textile background and a special interest in designing and developing textile machinery. The immediate need is drafting room work on new developments. Opportunities are open for advancement for the right person. Reply P-1252, Textile World.

SELLING OPPORTUNITY OFFERED

WANTED: SALES Engineer for textile finishing machinery. Territory principally New England. Applicant must be familiar with this type of equipment and well known in the trade. Holyoke Machine Company, Holyoke, Mass.

POSITIONS WANTED

TEXTILE SCHOOL graduate, 20 years experience as foreman and superintendent in silk, rayon and cotton wishes position in Phila. or vicinity. PW-8007, Textile World.

POSITION WANTED: Highly practical rayon and silk crepe throwster, wide experience throwing for the dress, underwear, embroidery and hosiery trade—capable training own help, qualified ability for establishing efficient throwing departments. Will guarantee desired results. PW-1147, Textile World.

MAN WITH over 12 years experience in braiding mill making venetian blind cord and other braids who believes in getting maximum production at a minimum cost at all times and is now supt. Would like to contact party interested in establishing braid mill in best location in south. PW-1193, Textile World.

FRENCH MANUFACTURER of silks and fabrics giving up business through lack of capital—perfect in design, creation of new fabrics, preparation and manufacture of silks, ribbons, materials, novelties—seeks situation in U.S.A., preferably New York where he wishes to emigrate with family—free shortly—speaks no English—age 33—dynamic, perfect health. Replies to PW-1253, Textile World.

CONTRACT WORK

WANTED: CONTRACTORS on commission warping and beaming heavy denier nylon yarn-pattern work. Reply CW-1099, Textile World.

MILL MANAGER
WANTS POSITION WITH PROGRESSIVE FIRM

Good Background. Best of Reference.
Years of successful experience in the Manufacturing of Filament and Spun Synthetic Fabrics. Specialist in Fancy Fabrics from Designing To Economic Production.

PW-9772, Textile World
330 W. 42nd Street, New York 18, N. Y.

PROFESSIONAL SERVICES

LANCASTER, ALLWINE & ROMMEL
Registered Patent Attorneys

Patent Practice before U. S. Patent Office, Validity and Infringement Investigations and Opinions. Booklet and form "Evidence of Conception" forwarded upon request.

Suite 448, 815 15th St., N. W., Washington 5, D. C.

WANTED
KNITTING MILL SUPERINTENDENT

Experienced in manufacture of knitted fabrics made on Brinton and Crane knitting machines, from yarn to finishing. Large New England Mill.

P-9968, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED
Assistant to Gen. Mgr.

Chain of Combed Yarn Mills. Wonderful Opportunity. Must have practical experience. College man around 35 preferred.

P-9859, Textile World
330 W. 42nd Street, New York 18, N. Y.

LOOM FIXER WANTED

Rayon weaving mill in Maryland has opening for competent rayon loom fixer-foreman. Should be thoroughly experienced with Draper rayon cam looms. Rent free apartment accompanies position. State age, qualifications, references and salary expected. Replies confidential.

P-1185, Textile World
330 W. 42nd Street, New York 18, N. Y.

DYER WANTED

Completely new modern plant in Virginia has opening for a dyer experienced on viscose and acetate piece goods. State age, qualifications and salary expected.

PW-9789, Textile World
330 W. 42nd Street, New York 18, N. Y.

SALESMAN WANTED

Chemical Company wants a Top-Notch salesman with thorough knowledge of the Weaving and Throwing of Rayon and Acetate and Silk Fabrics. To solicit business on Sizing and Throwing Compounds. Preferably man with Chemical Background.

SW-9519, Textile World
330 West 42nd Street, New York 18, N. Y.

WANTED
SALESMAN

Experienced to sell textile machines—must be fluent in Spanish.

SW-1059, Textile World
330 W. 42nd Street, New York 18, N. Y.

WANTED
SALES REPRESENTATIVE

Experienced
to sell textile machinery

RW-1058, Textile World
330 West 42nd St., New York 18, N. Y.

INVESTOR-EXECUTIVE WANTED

Old established manufacturer textile machinery in Metropolitan New York, seeks services mature experienced executive, able invest approximately $50,000, secured basis with option purchase interest. Experience textile machinery field desirable, but not essential.

BO-1233, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED

Large engineering firm wishes to acquire several complete textile plants through purchase of (1) capital stock, (2) assets, (3) machinery and equipment, whole or in part. Personnel retained where possible, strictest confidence.

Box 1222
1474 Broadway New York 18, N. Y.

MEN WANTED
POSITIONS OPEN

We can place general superintendent large rayon cloth mills; worsted cloth mill managers, superintendents and assistant superintendents, woolen mill superintendents (2); full-fashioned hosiery mill managers, superintendents and overseers; night superintendent worsted scouring, carding, combing; assistant superintendent cotton combed yarn weaving mill; assistant superintendent worsted top manufacturing.

OVERSEERS FOR THE FOLLOWING DEPARTMENTS: woolen carding; finishing flat rayon piece goods; shoddy carding, garnetting; finishing rayon-cotton goods (So. Amer.); woolen spinning; woolen and worsted weaving; weaving rayon and cotton fabrics; woolen and worsted finishing; latch and spring needle knitting; underwear cutting; cotton piece goods dyeing; dry finishing worsted dress goods; corduroy finishing; woolen carding and spinning combined.

SECOND HANDS FOR THE FOLLOWING DEPARTMENTS: woolen carding; cotton carding, rayon and cotton weaving; woolen dyeing; worsted piece dyeing.

Loom fixers and head loom fixers; time study—industrial engineers; printing technician (So. America); narrow webbing loom fixers; mule fixers; assistant designer worsted men's wear; textile cost estimator; floor covering designer; full-fashioned and seamless hosiery machine fixers; tricot knitting machine fixers; colormatcher worsted piece dyes; expert shear man woolens and worsteds; stylist upholstery fabrics; chemists for United States and foreign countries; Wildman and Leighton knitting machine fixers; cotton card grinders; salesmen for dyestuffs, chemicals and yarns.

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Incorporated
Over Fifty Years In Business
294 Washington St. Boston 8, Mass.
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FOR SALE
JACQUARD WEAVING BUSINESS

A complete Jacquard plant running at a profit weaving a fine grade of upholstery fabrics. Large backlog of orders, excellent customers. Plant located in the South with the following equipment:

66 Crompton & Knowles 72" 4 x 4 looms equipped with 1300 hook Jacquard machines.

24 Draper automatic looms about 72" reed space, 16 of which are equipped with 600 hook Jacquard machines.

Will sell 24 Draper automatics equipped with Jacquard & dobbies separately if desired.

Complete office & auxiliary equipment. Large quantity spare parts, also active Jacquard pattern cards.

Will sell very reasonable. Your best offer considered. Subject to withdrawal or prior sale.

Our selling organization will handle your sales problems if necessary.

BO-1036, Textile World
330 W. 42nd Street, New York 18, N. Y.

..WE OWN AND OFFER FOR SALE..

SPECIALISTS IN REBUILDING & RECONDITIONING LOOMS

Motors, General Electric, Textile, New, ½ & ¾ Hp., 3/60/220/1200

40—Crompton and Knowles 2x1, 52" Reedspace, Oversize Shuttle Box, Individually Motor Driven, 20 Hook Double Index Dobby's 2 Shift Pick Clocks, 11½ Beams Per Loom

12—Crompton & Knowles Quill Change Automatic Looms, 81½" between layswords, now running as a 1x1 but is equipped with a 4 cell shuttle box and laysword to operate as a 4x1 loom. Individually motor driven. Has gears on both ends of the crankshaft eliminating the twisting strain on the crankshaft. Has extended bottom shaft to operate Jacquard Machine and 2 shift pick counters

12—Model E Automatic Draper Looms, 53½" Reedspace, motorized, completely reconditioned with Stafford Cutter and Midget Feeler.

8—Model K Automatic Draper Looms, 47½" Reedspace, 20 hook dobby motorized, completely reconditioned with feeler and cutter

10—Model E Automatic Drapers, 65½" Reedspace with lacey top for 5 shaft operation, completely reconditioned with feelers and cutters

30—Model E Automatic Draper 45½" Reedspace with lacey top for 5 shaft operation, motorized, electric stop motion, completely reconditioned with feelers and cutters

20—80½" Reedspace Draper Automatic Quill Change, Double Drive looms, individually motor driven, with electric stop motion, some equipped with 600 hook double lift Jacquard machines

COMPLETELY REBUILT LOOMS

C & K 2x1, 54" Reedspace

C & K 4x1, 54" Reedspace with Multiplier

Roller Bearing, Shock Absorber heavy bar, individually motor driven, 20 harness dobby

5—Crompton & Knowles Heavy Wool type, 2x2 looms, 66" between laysworks with 1-½"x2-¼" Shuttle Boxes. Individually motor driven and extended bottom shaft to operate Jacquard Machine

1—Tirrell Bobbin Stripper for Cotton

1—Atwood 5Bs Doubler Twisters, motorized, 100 spindles, 6 Ends

20—#90 Universal Quillers and Coppers with and without bunch builders, completely rebuilt

Skein Winders—60, 80, 100 Spindles

8 Yard Sipp Warpers 84", 72"

1—Victoray Photo Copy Machine with Automatic Timer

1/3 H.P. Used Textile Motors, 220 volt, 3 phase, 60 cycle.

LIQUIDATION AND APPRAISAL SPECIALISTS

FLOOR SPACE AVAILABLE

Crompton & Knowles and Draper parts, *new and used*

New Stafford Cutters **New Draper Motor Drives**

WE BUY & SELL

FROM A SINGLE ITEM TO A COMPLETE PLANT

***NEW and USED* TEXTILE MACHINERY**

Paterson Textile Machinery Exchange
INC.

formerly the Paterson Silk Machinery Exchange, Inc.

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TACHOMETER BARGAIN

Jaeger Model 4030A TOTCO MODEL 942
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" " 43-A3

- Ideally suited for testing the speeds of motors, particularly of fractional horse power, generators, turbines, centrifugals, fans, etc.
- Very small Torque — requires practically no power to drive.
- *Unequalled Readability* 2" Open face dial—each division on large dial equals 1 RPM; each division on small dial equals 100 RPM. 0 to 1000 RPM.
- Greatest Accuracy—meets Navy specifications—guaranteed to be within ½ of 1%.
- Results of test reading remain on dial until next test taken.
- Push button for automatic resetting.

Will give accurately within a few seconds, by direct reading, the R.P.M. of shafts. Each unit comes complete in a velvet lined carrying case 5"x3½"x 1½". Net List Price $70.00—Surplus—Guaranteed. Your cost $17.50 F.O.B. Chicago, Ill.

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3 ALLIS-CHALMERS 150 K.V.A. TRANSFORMERS

Primary Voltage 13200 240 indoor type oil cooled single phase, 60 cycle, immediate delivery.

WILL LOAD

STRONGWALL MILLS, INC.

Cannelton, Indiana

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NEW FANS & BLOWERS—IN STOCK

- Fan Sizes 15 to 50—wool wheel.
- Propeller Fans, direct connected, fan sizes 12 to 24.
- Belt Driven Propeller Fans, with motors, fan dia. 30"-36"-42".
- Hy-Duty Inlet Blowers.

Complete Mills—Cotton, Wool and Rayon Weaving Units. Your inquiries solicited—single machines or complete plants, many NEW items.

BOBBINS **SPOOLS**

BAY STATE TEXTILE CO.

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HOSIERY MACHINES

used and rebuilt

KNITTERS—RIBBERS—LOOPERS—
CYLINDERS—DIALS—TRANSFERS
HOSIERY NEEDLES AND PARTS

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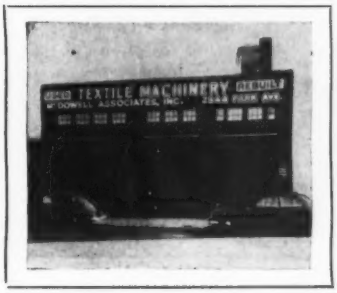
FOR SALE

Repeaters, Lacers Card Cutters Jacquards of all description. Steel Heddles & Lingoes

EUGENE SECKLER
96 No. 7 St., Paterson, N. J.



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ONLY A PARTIAL LIST

CARDING SPINNING AND WEAVING

30 M automatic 8¾" BOBBINS
1 BEAMER, high speed, accomodating up to 8" beams 2
3 TAPE CONDENSERS, 48", ball bearing, 96 ends
1 DX CREEL, Super-Structure Type, 360 ends
1 CONE DUSTER, 80" with Condenser
8 MULES, GP, 360 spdls ea. 2½" gauge
8 MULES, GP, 320 spdls ea. 3" gauge
2 WOOL OPENERS 48", double cylinders
1 FEARNAUGHT IRON MIXING PICKER 48x48 with new teeth in cylinder
1 RAG PICKER, 25", V Belt Pulley Drive
3 WOOL SPINNING FRAMES, 192 spdls ea., 4½" gauge, 3" ring
4 WOOL SPINNING FRAMES, Model E, 120 spdls ea., 5" ring, 6½" gauge
1 ABBINGTON CARD, STRIPPING SYSTEM, 1946 Model, 57 nozzles, complete
1 TWISTER, 200 spdls, 2½" ring, tape drive
1 TWISTER, 144 spdls, 3½" ring, mtrzd.
4 TWISTERS, 144 spdls ea., 4" ring mtrzd.
3 TWISTERS, 80 spdls ea., 4" ring, mtrzd.
1 FOSTER #30 CONE AND TUBE WINDER, 100 spdls., mtrzd.
1 FOSTER #101 CONE WINDER, 100 spdls., mtrzd.
1 LAZENBY JR. 30 spdls. auto. COP WINDER, V Belt Pulley Drive
4 WARPERS PIN TYPE, 9'3" wide, reel, beamers, compressors, tracks
147 DRAPER "E" 32", 5 harness, belt driven
189 DRAPER "E" 36", 2 harness, belt driven
58 DRAPER "X" 39", 6 harness, mtrzd.
63 DRAPER "P" 40", belt driven
100 DRAPER "E" 40", 2 harness, mtrzd.
72 DRAPER "E" 42", 6 harness, mtrzd.
28 DRAPER "K" 46", 25 harness, mtrzd.
52 DRAPER "E" 44", 2 harness, mtrzd.
150 DRAPER "XD" 50", 20 harness, mtrzd.
68 DRAPER "D" 81", 25 harness, mtrzd.
24 DRAPER "D" 86", 4 harness, mtrzd.
187 C&K 49" 4x1 auto. 25 harness, mtrzd.
12 C&K 52" 4x1 auto. 25 harness, mtrzd.
104 C&K S-5, 54" 2x1 auto. 20 harness, mtrzd.
35 C&K S-3 56", 2x1 auto., Gem head, mtrzd.
21 C&K 60" 4x1, mtrzd., auto.
12 C&K 64" 4x4, mtrzd., 25 harness
60 C&K 72" 4x1, auto., 20 harness, mtrzd.
14 C&K 76" 4x4, 25 harness, mtrzd.
14 C&K 82" 4x1, auto. 25 harness, mtrzd.
12 C&K 82" 4x4, 25 harness, belt driven
12 C&K 92" 4x1 auto., 25 harness, mtrzd.

IN OUR NEW WAREHOUSE
formerly
THERMO MILLS, INC.
HUDSON, N. Y.
MACHINERY ERECTED WHERE OPERATED

3 D&F 3 cyl. iron BREAKER AND FINISHER CARDS, 48x60
1 D&F LOMBARD 3 cyl. BREAKER AND FINISHER CARD, 48x60
1 P&W SEMI DECATUR 72"x24" dia. cyl.
1 SARGENT RAW STOCK DRYER 72" with tenders
1 HUSSONG DYEING MACHINE, 500#
1 HUSSONG SAMPLE DYEING MACHINE, 25#
1 HUSSONG DYING MACHINE, 150#
1 TOLHURST EXTRACTOR, 40", tinned copper basket
1 TOLHURST EXTRACTOR, 42", tinned copper basket
4 RODNEY HUNT FULLING MILLS, M-3
1 ROY 48" CARD GRINDING FRAME
1 ROY 60" CARD GRINDING FRAME
2 ROY 48" TRAVERSE GRINDERS for card cylinders
2 P&W MEASURING MACHINES, Model AWC, 66"
1 P&W PERCH, single roll, 66"
1 McCREARY CLOTH RESERVING MACHINE, 53" folder
1 GESSNER NAPPER, 80" D.A., 18 rolls
1 P&W NAPPER, BB, D.A., 24 rolls
1 C&M FEARNAUGHT PICKER, 40"x48" dia. cyl., hopper feed
5 TILLINGHAST ROTARY FOOT POWER SEWING MACHINES
1 DINSMORE ROTARY SEWING MACHINE, Merrow 60 ABB-3 head
2 P&W SHEARS, single blade, 66½"
1 R. HUNT SOAPER, SS, double steel rolls, tub 40"x54"
1 R. HUNT SOAPER, SS, steel rolls, tub 31"x52"
1 WHITING RING WOOL SPINNING FRAME, 180 spindles, 4½" gauge, bobbins available
3 D&F SPINNING MULES, 320 spindles each, 2" gauge, bobbins available
1 R. HUNT DOLLY WASHER, 8 string, 90" type 8CH
1 R. HUNT DOLLY WASHER, 8 string, 90", type 8S
2 CAMPBELL & CLUTE double side BOBBIN WINDERS, 40 spdles ea., bottle bobbins available

Also Supplies and Accessories; ie, Blowers, new card cloth.ng, electric drinking fountains, scales, jackspools, trucks, baskets.

DYEING AND FINISHING

1 BATCHING AND SEWING UNIT, MERROW 60DJB head, 60" mtrzd
1 BATCHER 2 roll, 60"
1 BRUSH with STEAMER, 2 roll, 66", mtrzd.
1 BRUSH AND SANDING UNIT, 4 roll, 66".
1 CALENDER, 3 roll, 50" Screw and Lever
1 CALENDER, 3 roll, 80" mtrzd.
1 CAAB, 4 bowl, 70" wide, squeeze rolls, vacuum slot, pump, motors, extra bowls included, etc.
1 DEWING MACHINE, 66", copper feed tank, drain trough, rotary pump, mtrzd.
4 DOUBLING, WINDING and MEASURING MACHINES, 50", 60", 72", 80"
1 PIN TENTER DRYER, 84", fans, housing, motors, complete
1 DYEING SKEIN, 10 arm, SS, Cascade Type
3 FOLDERS, 1 yard, 40", 56", 60"
2 INSPECTING MACHINES, 60", 100", forward and reverse motion.
14 JIGGS, 50", SS, tilting expanders, etc.
2 NAPPERS, 72", SA, 12-14 roll units, folder takeoff.
1 NAPPER, 90" SA, 20 BB Working Rolls, folder takeoff.
2 NAPPERS, 80", 90" DA, 24 roll, folder takeoff.
2 NAPPERS, 90", DA, 3 roll, folder takeoff.
1 PALMER, TENTER, QUETCH, 60", ball bearing, SS clips, mtrzd.
2 ROTARY STEAM PRESSES, 66", 69".
1 SHEAR, 4 blade, BB 60" automatic seam-through attachment, cloth rolling stand, mtrzd.
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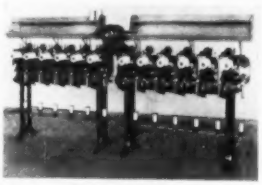

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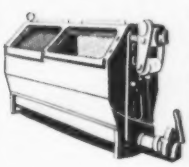

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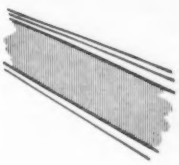

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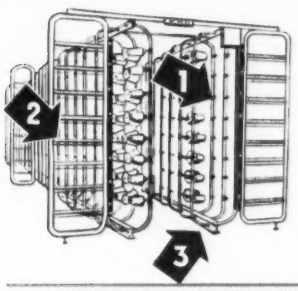
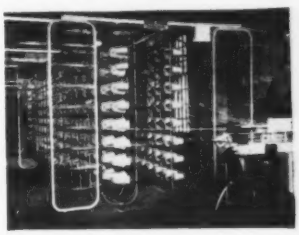
Mc BRIDE

TEXTILE EQUIPMENT NEWS

PUBLISHED BY EDWARD J. McBRIDE CO., INC. • 1400 ADAMS AVENUE • PHILADELPHIA 24, PA.

McBRIDE SRM MAGAZINE CREELS SPEED YOUR WARPING





Fast Loading – positive positioning – no snagging with McBRIDE patented swinging arms. Smooth finish, totally enclosed ball type positioning lock and completely recessed set screws eliminate all obstructions that might snag ballooning yarn.

Great Versatility – Assembly can be varied with yarn coming down either inside or outside for draw-off over end. Equipped with spindles for tubes or universal metal cone holders, this creel eliminates the necessity for wooden plugs. Double post disc type tension units with recessed hex heads provide positive adjustment without danger of marring finish with pliers or wrenches.

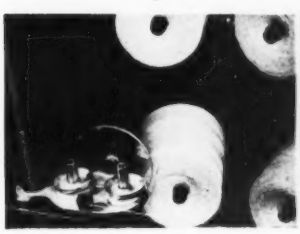
Easy Cleaning – even when fully loaded, is assured by McBRIDE monorail construction. Achieved without loss of strength or rigidity, this design gives complete access from both sides, eliminating objectionable "lint pockets."

Write today for illustrated folder describing McBRIDE Creels, Rolls and Loom Beams.

These McBRIDE features Cut Your Costs and Speed Production

1. Detail of McBRIDE adjustable, recessed hex head, double post, disc type tension units and snarl control shield.
2. Electro magnetic stop motion stops warper instantly in case of yarn break. Note totally enclosed two-way signal lights.
3. Photo showing ease of cleaning McBRIDE SRM Creels. Note how McBRIDE universal cone holders provide rigid, accurate support for cones.

1



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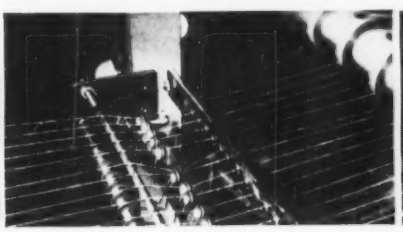

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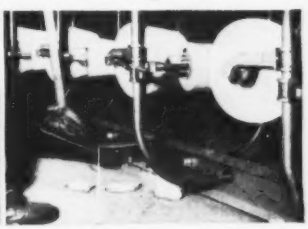


McBRIDE Announces Low Cost Heavy Duty Weaving Creels for Tire Cord Fabrics

Part of a complete line of McBRIDE heavy duty creels for weaving rugs, blankets and similar fabrics. These new Tire Cord Creels bring you extra strength and rigidity at a new low cost.

These all-metal, all-welded creels may be castor mounted to facilitate replacement of the complete set behind the loom, thus cutting down time by permitting reloading away from the loom.

Complete individualized engineering service goes with every McBRIDE product – your guarantee that the complete installation will truly fit your needs.

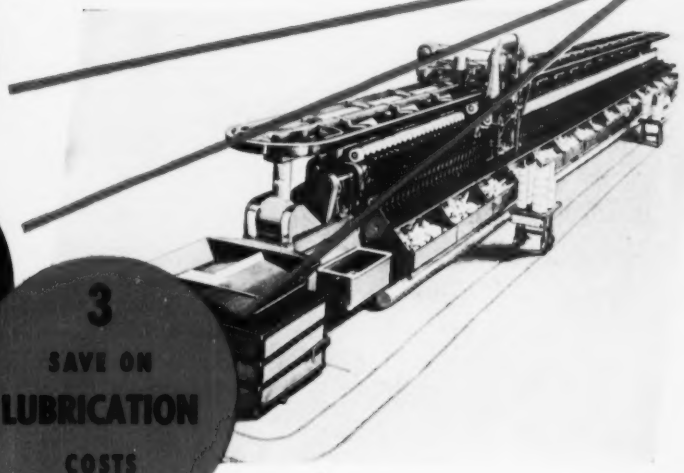
REDUCE 3 COSTS

Lubricate anti-friction bearings with TEXACO REGAL STARFAK *and Save*

1 SAVE ON MAINTENANCE COSTS

2 SAVE ON OPERATING COSTS

3 SAVE ON LUBRICATION COSTS



MAINTENANCE costs are less when you pack grease-lubricated ball and roller bearings with *Texaco Regal Starfak*. Bearings get full protection. *Texaco Regal Starfak* remains stable, resists oxidation and gum formation. Temperature changes have little effect on it. Thus, bearings last longer, less servicing is required, time between scheduled overhauls can safely be extended.

Operating costs are less because *Texaco Regal Starfak* reduces "drag" in starting and running. This means machines can operate with less power consumption. And lubrication costs are lower because *Texaco Regal Starfak* resists leakage, separation and washout. It lasts longer, so fewer applications are needed.

Let a Texaco Lubrication Engineer help you reduce costs and increase efficiency throughout your mill. Just call the nearest of the more than 2300 Texaco Wholesale Distributing Plants in the 48 States, or write The Texas Company, 135 East 42nd Street, New York 17, N. Y.

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FOR THE TEXTILE INDUSTRY